

The Relationship Between E-Learning Usage and Lecture Effectiveness at the Faculty of Education, Padang State University

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ABSTRACT

The integration of e-learning into higher education has become increasingly important in supporting flexible and technology-enhanced learning. Although previous studies have demonstrated the benefits of Learning Management Systems (LMS) in improving learning outcomes, limited empirical evidence has examined how e-learning usage relates to lecture effectiveness in Indonesian public universities, particularly within the Faculty of Education. This study aimed to investigate the relationship between e-learning usage and lecture effectiveness among students at the Faculty of Education Padang State University. A quantitative correlational design was employed involving 98 students selected through proportional random sampling from a population of 4,114 active students. Data were collected using a validated and reliable Likert-scale questionnaire and analyzed using descriptive statistics and Pearson Product-Moment correlation analysis. The findings revealed that e-learning usage achieved a Respondent Achievement Level of 76.97%, while lecture effectiveness reached 74.26%, indicating that both variables were categorized as good. Correlation analysis showed a positive and statistically significant relationship between e-learning usage and lecture effectiveness ($r = 0.986$, $p < 0.05$). These findings suggest that more effective utilization of e-learning is associated with higher lecture effectiveness. This study contributes empirical evidence supporting the optimization of e-learning implementation as a strategy for improving teaching and learning quality in higher education institutions.

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1. INTRODUCTION

The rapid advancement of digital technology has significantly transformed higher education by changing how teaching and learning activities are designed, delivered, and evaluated. Universities are increasingly integrating Learning Management Systems (LMS) into their educational practices to facilitate flexible learning, improve communication, and enhance students' learning experiences. As digital transformation continues to reshape higher education, the effective utilization of e-learning has become one of the key determinants of successful learning outcomes.

Lecture effectiveness reflects the extent to which learning objectives are successfully achieved through appropriate learning management, meaningful interaction between lecturers and students, active student engagement, and effective time management during the learning process. Effective lectures not only improve students' academic achievement but also promote meaningful learning experiences that support the development of knowledge, skills, and critical thinking. Consequently, improving lecture

effectiveness has become one of the primary concerns of higher education institutions implementing technology supported learning environments.

Previous studies have consistently demonstrated the positive role of Learning Management Systems in improving learning quality. Al-Fraihat et al. (2020) concluded that the success of e-learning implementation depends on system quality, information quality, and service quality, all of which influence user satisfaction and learning outcomes. Similarly, Gamage et al. (2022) reported that Learning Management Systems improve student engagement, learning satisfaction, and academic performance when supported by appropriate instructional design. Bond et al. (2021) further emphasized that digital learning environments facilitate interaction, collaboration, and student participation, thereby strengthening learning effectiveness in higher education.

Despite these findings, previous studies have primarily focused on evaluating the effectiveness of Learning Management Systems or online learning implementation in general. Limited empirical research has specifically examined the relationship between students' e-learning usage and lecture effectiveness within Indonesian higher education institutions, particularly after the transition from emergency online learning to more sustainable digital learning environments. This indicates the existence of a research gap that requires further investigation.

At the Faculty of Education, Padang State University, e-learning has become an integral component of the learning process. However, preliminary observations indicate that its utilization has not yet reached its full potential. Student participation in online discussions remains relatively low, many lecturers primarily use the platform for uploading learning materials and collecting assignments, and several technical issues including login difficulties, slow system performance, and file upload failures continue to hinder learning activities. These conditions suggest that although e-learning infrastructure is available, its implementation may not yet effectively support optimal lecture effectiveness.

Based on these empirical conditions and the identified research gap, this study investigates the relationship between e-learning usage and lecture effectiveness among students at the Faculty of Education, Padang State University. Unlike previous studies that mainly evaluated Learning Management Systems from technical or system-quality perspectives, this study focuses on students' actual utilization of e-learning and its relationship with lecture effectiveness. The findings are expected to contribute empirical evidence that supports the optimization of digital learning implementation and provides practical recommendations for improving the quality of higher education learning.

Article Type

This article reports the findings of a quantitative correlational study that examines the relationship between e-learning usage and lecture effectiveness among undergraduate students at the Faculty of Education, Padang State University. The study provides empirical evidence regarding how students' utilization of e-learning is associated with the effectiveness of the learning process in higher education.

2. METHOD, DATA, ANALYSIS

This study employed a quantitative approach using a correlational research design to examine the relationship between e-learning usage and lecture effectiveness among students of the Faculty of Education, Padang State University. The population consisted of 4,114 active undergraduate students enrolled between 2022 and 2024, from which 98 respondents were selected using proportional random sampling. Data were collected using a five-point Likert-scale questionnaire developed based on the indicators of both research variables. Prior to data collection, the instrument was tested for validity using the Pearson Product-Moment correlation and for reliability using Cronbach's Alpha. The results indicated that all questionnaire items were valid ($r_{count} > r_{table}$) and that the instrument demonstrated excellent reliability (Cronbach's Alpha = 0.945), indicating its suitability for data collection. The collected data were analyzed using descriptive statistics to determine the level of each variable and Pearson Product-Moment correlation analysis to examine the relationship between e-learning usage and lecture effectiveness.

3. RESULT AND DISCUSSION

Result

The results of the study are presented through descriptive analysis of each variable and hypothesis testing. Descriptive analysis was conducted to determine the level of e-learning usage and lecture effectiveness among students of the Faculty of Education, Padang State University, is illustrated in the following table:

Table 1. Descriptive Statistics of E-learning Usage and Lecture Effectiveness

Variable	Mean Score	Respondent Achievement Level (RAL)	Category
Lecture Effectiveness	3.8	76.97%	Good
E-learning Usage	3.7	74.26%	Good

Table 2. Pearson Product-Moment Correlation between E-learning Usage and Lecture Effectiveness

Variable	Pearson Correlation (r)	Sig. (2-tailed)	N	Interpretation
E-learning Usage * Lecture Effectiveness	0.986	0.000	98	Positive and statistically significant

Pearson Product-Moment correlation analysis revealed a correlation coefficient of 0.986 with a significance value of 0.000 ($p < 0.05$). These results indicate a positive and statistically significant relationship between e-learning usage and lecture effectiveness among students of the Faculty of Education, Padang State University. Therefore, the research hypothesis was accepted, indicating that higher levels of e-learning usage are associated with higher levels of lecture effectiveness.

Discussion

The descriptive analysis showed that e-learning usage among students of the Faculty of Education, Padang State University was categorized as good, with a mean score of 3.7 and a Respondent Achievement Level (RAL) of 74.26%. These findings indicate that students have generally utilized e-learning to support the learning process. Nevertheless, the functionality indicator obtained the lowest mean score (3.6; RAL = 72.08%), suggesting that some features of the e-learning system have not been utilized optimally. This finding indicates the need for continuous improvement in system functionality to better support teaching and learning activities. At the same time, lecture effectiveness was also categorized as good, with a mean score of 3.8 and a Respondent Achievement Level (RAL) of 76.97%. This result indicates that the learning process has been implemented effectively in terms of learning application management, communicative processes, engagement in learning, and learning time management. These findings are consistent with the conclusion of the study that both variables have generally been implemented well among students at the Faculty of Education, Padang State University.

The Pearson Product-Moment correlation analysis revealed a correlation coefficient of 0.986 with a significance value of 0.000 ($p < 0.05$), indicating a positive and statistically significant relationship between e-learning usage and lecture effectiveness. These results imply that students who make better use of e-learning also tend to perceive lecture implementation as more effective. Therefore, the research hypothesis stating that there is a significant relationship between e-learning usage and lecture effectiveness was accepted. The findings suggest that the utilization of e-learning contributes to supporting learning management, facilitating communication during lectures, encouraging student engagement, and improving the management of learning time.

The very high correlation coefficient indicates that e-learning usage is strongly associated with lecture effectiveness in this study. Nevertheless, this finding should be interpreted with caution because correlation analysis describes the strength of the relationship between variables rather than establishing a causal effect. Moreover, lecture effectiveness is likely influenced by various factors beyond e-learning usage, such as students' learning motivation, lecturers' pedagogical competence, learning facilities, and institutional support. Therefore, future studies are recommended to employ multivariate or experimental approaches involving broader samples to obtain a more comprehensive understanding of the factors associated with lecture effectiveness.

These findings support the e-learning success model proposed by Al-Fraihat et al. (2020), which emphasizes that the success of e-learning implementation is influenced by system quality, information quality, and service quality. When these aspects are well managed, users are more likely to utilize the system effectively, resulting in improved learning experiences. In the present study, the good category achieved by e-learning usage indicates that students generally perceived the system as beneficial in supporting the learning process, although improvements are still required in terms of system functionality.

The results are also consistent with Gamage et al. (2022), who reported that Learning Management Systems improve student engagement and learning satisfaction by facilitating access to learning resources and interaction between lecturers and students. Likewise, Bond et al. (2021) highlighted that digital learning environments encourage active participation, communication, and collaboration throughout the learning

process. These previous studies reinforce the present findings that effective utilization of e-learning is associated with better lecture effectiveness in higher education.

From a practical perspective, the findings indicate that the Faculty of Education should continue optimizing the implementation of e-learning, particularly by improving the functionality of the system, which was identified as the lowest-scoring indicator in this study. Enhancing system performance, simplifying feature accessibility, and providing continuous technical support may encourage students to use e-learning more effectively. In addition, lecturers should maximize the use of e-learning to facilitate communication, organize learning activities, and encourage student engagement, thereby supporting more effective lecture implementation.

Although the correlation coefficient obtained in this study was very high, the findings should be interpreted carefully because this research employed a correlational design. Correlation analysis explains the strength of the relationship between variables but does not establish a causal relationship. Furthermore, lecture effectiveness may also be influenced by other factors, such as students' learning motivation, academic ability, learning readiness, lecturers' competence, instructional methods, learning facilities, and institutional support for digital learning. Therefore, future studies are recommended to examine these variables using broader samples and more comprehensive analytical approaches to obtain a deeper understanding of the factors associated with lecture effectiveness.

This study contributes empirical evidence regarding the relationship between e-learning usage and lecture effectiveness in the context of Indonesian higher education, particularly at the Faculty of Education, Padang State University. The findings provide additional evidence that effective utilization of e-learning is positively associated with lecture effectiveness and may serve as a reference for universities in developing policies to optimize digital learning implementation and improve the quality of higher education.

4. CONCLUSION

Lecture effectiveness among students of the Faculty of Education, Padang State University was categorized as good, with a Respondent Achievement Level (RAL) of 76.97%, while e-learning usage was also categorized as good, achieving a Respondent Achievement Level of 74.26%. Pearson Product-Moment correlation analysis revealed a positive and statistically significant relationship between e-learning usage and lecture effectiveness. These findings indicate that students who make better use of e-learning tend to perceive lecture implementation as more effective. The study provides empirical evidence that optimizing e-learning implementation can support improvements in lecture effectiveness and may serve as a reference for universities seeking to strengthen digital learning practices.

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