

## **EFFECTS OF TEACHING AND LEARNING FACILITIES AND LECTURERS' TEACHING STYLES ON STUDENTS' LEARNING MOTIVATION**

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**Abstract.** Learning motivation is a crucial factor in higher education as it determines students' ability to absorb knowledge, develop skills, and achieve optimal academic performance. However, low learning motivation remains a persistent challenge in many higher education institutions, often influenced by inadequate teaching and learning facilities as well as less effective lecturers' teaching styles. This study aims to examine the influence of teaching and learning facilities and lecturers' teaching styles on students' learning motivation at LP3I Jakarta Polytechnic, Depok Campus. A quantitative explanatory research design was employed, involving 81 students selected through stratified random sampling from a population of 425 students. Data were collected using questionnaires, observation, and documentation, and analyzed using descriptive statistics, multiple linear regression, correlation analysis, and hypothesis testing (t-test and F-test) with SPSS. The results reveal that teaching and learning facilities have a positive and moderate effect on students' learning motivation, while lecturers' teaching styles have a positive and strong effect. Simultaneously, both variables significantly influence students' learning motivation, explaining 45.36% of the variance. These findings indicate that improving the quality of educational facilities and enhancing lecturers' teaching styles are essential strategies for strengthening students' learning motivation. Therefore, higher education institutions are encouraged to continuously upgrade learning facilities and support lecturers in developing more engaging, interactive, and student-centered teaching approaches to foster better learning motivation and academic outcomes.

**Keywords:** teaching and learning facilities; lecturers' teaching styles; students' learning motivation.

## **INTRODUCTION**

### **Background of the Study**

Learning motivation plays a pivotal role in determining students' academic engagement, persistence, and overall learning outcomes in higher education. Motivated students tend to demonstrate higher levels of cognitive involvement, stronger self-regulation, and greater academic achievement, all of which are essential for preparing graduates to meet the demands of an increasingly complex and competitive labor market (Schunk et al., 2020; Ryan & Deci, 2020). In vocational and applied higher education institutions, such as polytechnics, learning motivation becomes even more critical due to the strong emphasis on practical skills, workplace readiness, and professional competence. Recent studies highlight that students' learning motivation is not merely an individual psychological attribute but is strongly shaped by institutional and pedagogical factors. Teaching and learning facilities including classrooms, laboratories, learning media, and technological infrastructure constitute an essential learning environment that can either stimulate or hinder students' motivation (Bond et al., 2021; Kintu et al., 2020). Likewise, lecturers' teaching styles, encompassing instructional strategies, communication skills, classroom interaction, and the use of learning technologies, significantly influence students' enthusiasm and engagement in the learning process (Grasha, 2022; Darling-Hammond et al., 2020).

In the context of Indonesian higher education, particularly private vocational institutions, disparities in facility quality and variations in lecturers' teaching approaches remain prevalent. Prior research conducted in Indonesian higher education contexts indicates that suboptimal learning facilities and conventional, lecturer-centered teaching

styles may negatively affect students' motivation and learning effectiveness (Suchyadi et al., 2020; Suchyadi & Nurjanah, 2021). Consequently, understanding how these factors jointly influence students' learning motivation is essential for institutional quality improvement and sustainable educational development.

### **Problem of the Study**

Despite increasing investments in educational infrastructure and professional development for lecturers, many higher education institutions still face challenges related to low student motivation, reflected in poor class participation, absenteeism, and limited engagement in learning activities. Empirical evidence regarding the relative and combined influence of teaching and learning facilities and lecturers' teaching styles on students' learning motivation particularly in vocational higher education setting remains fragmented and context-dependent. This raises critical questions about which factors exert stronger influence and how they interact in shaping students' motivation.

### **Research State of the Art**

Contemporary research has extensively examined learning motivation through the lenses of self-determination theory, constructivist pedagogy, and technology-enhanced learning environments (Ryan & Deci, 2020; Schunk et al., 2020). Studies published between 2020 and 2024 emphasize that supportive learning environments and student-centered teaching styles significantly enhance intrinsic motivation (Bond et al., 2021; Martín et al., 2021). Furthermore, recent empirical works underline the importance of integrating adequate physical facilities with interactive and adaptive teaching strategies to foster meaningful learning experiences (Darling-Hammond et al., 2020; Kintu et al., 2020). However, most studies focus on either facilities or teaching styles independently, with limited attention to their simultaneous effects, particularly within vocational higher education contexts in developing countries.

### **Gap Study & Objective**

Although prior studies have acknowledged the importance of learning facilities and teaching styles, there is a notable gap in empirical research that quantitatively examines their combined influence on students' learning motivation in Indonesian vocational higher education institutions. Moreover, existing research rarely provides comparative insights into the relative strength of these variables when analyzed simultaneously. This study addresses this gap by offering empirical evidence from a polytechnic context, thereby contributing to the global discourse on motivation-enhancing factors in higher education.

This study aims to analyze the partial and simultaneous effects of teaching and learning facilities and lecturers' teaching styles on students' learning motivation at LP3I Jakarta Polytechnic, Depok Campus. Specifically, it seeks to determine the magnitude of influence of each variable and provide evidence-based recommendations for improving institutional learning environments and pedagogical practices.

## **METHOD**

### **Type and Design**

This study employed a quantitative research approach with an explanatory research design, aiming to examine the causal relationships between teaching and learning facilities, lecturers' teaching styles, and students' learning motivation. The explanatory design was selected to identify both the partial and simultaneous effects of the independent variables on the dependent variable through statistical testing. This approach is appropriate for studies seeking to test hypotheses and measure the strength of relationships among variables in educational settings (Creswell & Creswell, 2023). The research model positions teaching and learning facilities ( $X_1$ ) and lecturers' teaching styles ( $X_2$ ) as independent variables, while students' learning motivation ( $Y$ ) serves as the dependent variable.

### **Data and Data Sources**

The data used in this study consisted of primary and secondary data. Primary data were obtained directly from students through structured questionnaires designed to measure perceptions of teaching and learning facilities, lecturers' teaching styles, and learning motivation. Secondary data were collected from institutional documents, including student enrollment data, study programs, and academic profiles of LP3I Jakarta Polytechnic, Depok Campus. The research population comprised 425 active students, from which a sample of 81 students was selected using stratified random sampling to ensure proportional representation across study programs and academic levels.

This sampling technique enhances the representativeness and generalizability of the findings within the institutional context (Taherdoost, 2022).

**Data Collection Technique**

Data collection was conducted using three techniques. First, questionnaires were distributed to respondents using a Likert-scale format ranging from strongly disagree to strongly agree. The questionnaire items were developed based on established theoretical constructs and previous empirical studies to ensure content validity. Second, direct observation was carried out to obtain contextual insights into the learning environment and classroom conditions. Third, documentation analysis was used to support and triangulate primary data, particularly related to institutional facilities and academic information. Prior to data analysis, the research instruments were tested for validity and reliability to ensure accuracy and consistency of measurement.

**Data Analysis**

Data analysis was performed using Statistical Package for the Social Sciences (SPSS). The analysis procedures included descriptive statistics to summarize respondents’ characteristics and variable tendencies, followed by classical assumption tests (normality, multicollinearity, and heteroscedasticity) to ensure the suitability of regression analysis. Inferential statistical analyses were conducted using multiple linear regression to examine the effects of teaching and learning facilities and lecturers’ teaching styles on students’ learning motivation. Hypothesis testing was carried out through t-tests to assess partial effects and F-tests to evaluate simultaneous effects. Additionally, correlation and coefficient of determination analyses were applied to determine the strength of relationships and the proportion of variance explained by the independent variables. This analytical framework aligns with best practices in quantitative educational research (Field, 2022).

**RESULTS**

This section presents the empirical findings derived from statistical analyses conducted to examine the effects of teaching and learning facilities and lecturers’ teaching styles on students’ learning motivation. Descriptive analysis indicates that students generally perceived the availability and quality of teaching and learning facilities as moderately good, with a mean Likert score of 3.33. Facilities related to classrooms, laboratories, learning media, and worship spaces received relatively high evaluations, while supporting facilities such as parking areas, student activity rooms, and sports facilities were perceived as less adequate. Lecturers’ teaching styles were also rated moderately positive, with an average score of 3.11, reflecting acceptable levels of instructional clarity, interaction, and teaching methods. Meanwhile, students’ learning motivation demonstrated a high level, with a mean score of 4.03, suggesting strong intrinsic and extrinsic motivation among respondents. Prior to hypothesis testing, classical assumption tests confirmed that the data met the requirements for multiple regression analysis, including normality, absence of multicollinearity, and homoscedasticity.

Table 1. Summary of Multiple Regression Results

<b>Variable</b>	<b>B</b>	<b>β</b>	<b>t</b>	<b>Sig.</b>
Constant	85.188	–	2.210	.031
Teaching and Learning Facilities (X <sub>1</sub> )	0.028	0.029	0.268	.790
Lecturers’ Teaching Styles (X <sub>2</sub> )	0.793	0.714	6.546	.000

The regression results reveal that lecturers’ teaching styles have a positive and statistically significant effect on students’ learning motivation ( $\beta = 0.714, p < .001$ ), whereas teaching and learning facilities show a positive but statistically weaker effect when analyzed partially. The regression model explains 45.36% of the variance in students’ learning motivation ( $R^2 = 0.4536$ ), indicating a substantial combined influence of the independent variables. The F-test further confirms that teaching and learning facilities and lecturers’ teaching styles simultaneously exert a significant influence on students’ learning motivation ( $F = 35.180, p < .001$ ). Correlation analysis indicates a moderate relationship between teaching and learning facilities and learning motivation ( $r = 0.458$ ), and a strong relationship between lecturers’ teaching styles and learning motivation ( $r = 0.731$ ).

## DISCUSSIONS

The findings of this study provide important insights into the determinants of students' learning motivation in vocational higher education contexts. The significant influence of lecturers' teaching styles on learning motivation supports contemporary pedagogical theories emphasizing student-centered, interactive, and adaptive instruction (Ryan & Deci, 2020; Darling-Hammond et al., 2020). Lecturers who actively engage students, apply varied instructional methods, and communicate clearly tend to foster higher levels of intrinsic motivation, which is crucial for sustained learning engagement. The moderate effect of teaching and learning facilities suggests that while physical and technological resources are important, they may not independently guarantee high learning motivation. This finding aligns with previous research indicating that facilities function as enabling conditions rather than primary motivational drivers (Bond et al., 2021; Zhu & Liu, 2022). Adequate facilities create a supportive learning environment, but their motivational impact is maximized only when combined with effective pedagogical practices. The strong explanatory power of the combined model highlights the synergistic relationship between infrastructure and instructional quality. This result reinforces the argument that institutional investments in facilities should be accompanied by continuous professional development for lecturers to ensure pedagogical effectiveness (Schunk et al., 2020; Martín et al., 2021). In vocational education settings, where practical application and skill mastery are essential, lecturers' teaching styles play a central role in translating institutional resources into meaningful learning experiences.

These findings are consistent with recent studies conducted in higher education contexts in developing countries, which emphasize the dominance of human and pedagogical factors over structural factors in shaping students' motivation (Suchyadi & Nurjanah, 2021; Zhou & Brown, 2021). Moreover, the results underscore the relevance of self-determination theory, which posits that autonomy-supportive teaching environments enhance students' intrinsic motivation and academic persistence (Ryan & Deci, 2020). Overall, the empirical evidence suggests that improving students' learning motivation requires an integrated strategy that combines adequate learning facilities with innovative, engaging, and student-oriented teaching styles. This integrated approach is particularly vital for vocational higher education institutions seeking to improve graduate quality and employability.

### Novelty and Contribution

The novelty of this study lies in its integrative empirical examination of teaching and learning facilities and lecturers' teaching styles as simultaneous predictors of students' learning motivation within a vocational higher education context in Indonesia. While previous studies have predominantly analyzed these variables separately, this research provides quantitative evidence of their relative and combined effects, revealing that lecturers' teaching styles exert a stronger influence on learning motivation than physical and instructional facilities alone. This finding contributes to the refinement of motivation theory in higher education by emphasizing the dominant role of pedagogical interaction over structural resources. From a theoretical perspective, this study extends the application of self-determination theory and student-centered learning frameworks by contextualizing them within vocational education, where practical skills and workplace readiness are paramount. Empirically, it enriches the limited body of literature on learning motivation in Southeast Asian vocational institutions, offering robust statistical evidence that can be used for cross-contextual comparison. Practically, the study contributes actionable insights for institutional leaders and lecturers regarding priority areas for improving students' motivation and learning outcomes.

### Implication and suggestions

The findings of this study carry several important implications for higher education institutions, particularly vocational and applied universities. First, the strong influence of lecturers' teaching styles implies that human and pedagogical factors should be prioritized in institutional quality improvement strategies. Continuous professional development programs focusing on interactive teaching methods, communication skills, and student-centered pedagogy are strongly recommended. Lecturers should be encouraged to adopt instructional approaches that promote active participation, problem solving, and real world application of knowledge. Second, although teaching and learning facilities showed a moderate effect, they remain an essential enabling factor for effective learning. Institutions should ensure that core learning facilities such as classrooms, laboratories, and learning media are well-maintained and aligned with pedagogical needs. Investment decisions should be strategically linked to instructional innovation rather than infrastructure expansion alone. Third, institutional management is encouraged to adopt an integrated improvement approach, combining facility enhancement with pedagogical reform. Such alignment can maximize the

motivational impact of educational investments and contribute to improved academic performance, student satisfaction, and graduate employability.

### Directions for Future Research

Future research may extend the findings of this study in several directions. First, subsequent studies could incorporate additional mediating or moderating variables, such as self-efficacy, learning engagement, digital literacy, or institutional culture, to provide a more comprehensive explanatory model of students' learning motivation. Second, employing mixed-methods or qualitative approaches such as interviews or classroom observations could enrich the understanding of how teaching styles and facilities are experienced by students in daily learning practices. Third, comparative studies across different types of higher education institutions (e.g., universities vs. polytechnics, public vs. private institutions) or across regions and countries would enhance the generalizability of the findings. Finally, longitudinal research designs are recommended to examine how improvements in teaching styles and facilities influence students' motivation and academic outcomes over time. Such approaches would provide deeper insights into the sustainability of motivation-enhancing strategies in higher education.

### CONCLUSION

This study investigated the influence of teaching and learning facilities and lecturers' teaching styles on students' learning motivation in a vocational higher education context. The findings demonstrate that both variables significantly contribute to students' learning motivation, with lecturers' teaching styles exerting a stronger and more substantial effect than teaching and learning facilities. This indicates that while adequate facilities are essential in creating a supportive learning environment, pedagogical quality and instructional interaction play a more decisive role in fostering students' motivation to learn. The results further reveal that teaching and learning facilities and lecturers' teaching styles simultaneously explain a considerable proportion of variance in students' learning motivation, highlighting the importance of an integrated institutional approach to learning improvement. Facilities function as enabling conditions that support the learning process, whereas lecturers' teaching styles act as the primary motivational drivers that translate these resources into meaningful and engaging learning experiences. These findings are consistent with contemporary educational theories that emphasize student-centered learning and autonomy-supportive teaching practices as key determinants of learning motivation. Overall, this study contributes empirical evidence to the growing body of literature on learning motivation in higher education, particularly within vocational institutions in developing countries. The conclusions underscore the need for higher education institutions to balance investments in physical and technological infrastructure with sustained efforts to enhance lecturers' pedagogical competencies. By aligning facility development with innovative teaching practices, institutions can more effectively promote students' learning motivation, academic engagement, and readiness for the professional world.

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