



Analyzing Teacher Teaching Style, Learning Style Perceptions, and Student Engagemennt on EFL Learning Outcomes in Higher Education

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First Received: (the date you send the manuscript)

Final Proof Received: (the date you send the final version)

Abstract

This quantitative explanatory study investigates the complex interplay of internal and external factors specifically Teacher Teaching Style (X_1), Student Learning Style (X_2), and Student Engagement (X_3) affecting objective English as a Foreign Language (EFL) competence among university students. The research addresses a critical gap regarding the simultaneous influence of these variables within localized Indonesian higher education contexts. Data were collected from 46 English Education students In 24th batch ($N=52$), determined using the Slovin formula with a 5% margin of error, and selected via Simple Random Sampling.¹ Instruments employed highly reliable Likert scales (Cronbach's $\alpha \geq 0.829$) and an objective test for outcomes. Prerequisite testing confirmed that the data satisfied normality assumptions (Shapiro-Wilk > 0.05) across all variables. Multiple linear regression analysis revealed a robust finding: only Teacher Teaching Style (X_1) significantly and positively predicted EFL Learning Outcomes ($\beta=0.851$, $p = 0.000$). Conversely, the perceived Student Learning Style (X_2 , $p = 0.271$) and Student Engagement (X_3 , $p = 0.518$) were statistically non-significant predictors. Notably, X_3 showed a negative coefficient ($\beta= -0.109$). The conclusion underscores the paramount importance of teacher pedagogical quality, aligning with international critiques of the learning styles theory and aqdvocating for the prioritization of evidence-based instructional design to enhance student competence.

Keywords: Teacher Teaching Style, Learning Style, Student Engagement, EFL Learning Outcomes, Pedagogical Alignment

INTRODUCTION

Education is a fundamental necessity that plays a crucial role in ensuring the quality of human resources and preserving the dignity of a nation. In the context of higher education, the success of the learning process is not measured solely by cognitive achievement but also by the extent to which learning activities foster students' overall potential. In English Education programs, achieving optimal learning outcomes in mastering English as a Foreign Language (EFL) is a primary objective, as English functions as a global means of communication, academic development, and the enhancement of graduates' competitiveness (Almira et al., 2025).

Theoretically, the success of EFL learning is influenced by various interrelated factors, which can be broadly categorized into external and internal factors. Zhou and Liu (2025) mention External factors include teachers' or lecturers' pedagogical aspects, such as teaching style, instructional strategies, and classroom management. While Internal factors , relate to students' characteristics, including learning styles, cognitive preferences, motivation, and levels of active engagement in the learning process. Constructivist learning theory emphasizes that effective language learning



should be student-centered, encouraging learners' active involvement in constructing knowledge through interaction, practice, and reflection (Halif et al., 2020).

However, these ideal conditions are often not fully realized in practice. Preliminary observations in several higher education institutions indicate that English language instruction is still predominantly characterized by conventional teaching methods, such as one-way lectures and written assignments. This approach tends to position students as passive recipients of information, thereby limiting opportunities for active language practice (Rosalia, 2024). In fact, language learning requires learners' direct involvement in authentic language use, both orally and in written form. Zhou and Liu (2025) state the mismatch between the pedagogical demands of language learning and the instructional practices employed may negatively affect students' learning outcomes.

In addition to teachers' teaching styles, students' learning styles constitute a critical factor influencing learning effectiveness. Differences in learning preferences whether visual, auditory, or kinaesthetic necessitate varied instructional approaches to accommodate diverse learning needs (Abdullah et al., 2024). When teachers' teaching styles are not aligned with students' learning styles, the internalization of learning materials may be hindered. Moreover, students' activeness in the learning process serves as an important mediating factor linking pedagogical and cognitive aspects to learning outcomes. Karacan et al. (2022) mention that students who actively ask questions, participate in discussions, and engage in communicative tasks tend to achieve better learning outcomes than those who remain passive.

A number of previous studies have examined the effects of teachers' teaching styles, students' learning styles, and students' activeness on English learning outcomes in a partial or isolated manner. However, most of these studies have analyzed the variables separately, thus failing to provide a comprehensive understanding of the relative contribution of each factor when examined simultaneously. Furthermore, research focusing specifically on English Education students in higher education, particularly those in the early stages of their academic programs, remains limited.

Based on the gap between the ideal conditions of EFL learning which emphasize active student engagement and the actual instructional practices that remain largely teacher-centered, as well as the limitations of prior research in examining the simultaneous effects of multiple learning factors, the present study is considered relevant and necessary. Therefore, this study aims to analyze the simultaneous contributions of Teachers' Teaching Styles (X1), Students' Learning Styles (X2), and Students' Activeness (X3) to English Learning Outcomes (Y) among English Education students of the 2024 cohort.

The novelty of this study lies in the application of a multivariate analytical approach to compare the predictive weight of each variable simultaneously within the context of higher education EFL learning. Accordingly, the findings of this study are expected to provide deeper insights into the dominant factors influencing English learning outcomes and to serve as an empirical basis for the development of more effective, contextual, and student-oriented instructional strategies.



Teacher Teaching Style

Effective teaching styles should go beyond the simple transmission of information from teachers to students. Contemporary theoretical frameworks emphasize that varied and interactive teaching styles are key determinants of successful learning, particularly in the context of English as a Foreign Language (EFL) instruction (Xiong, 2025). In this view, teachers function not merely as knowledge transmitters but as facilitators who create active learning environments in which students are encouraged to engage directly in language use through interaction, practice, and reflection.

Within this framework, constructivist principles are highly relevant to EFL learning. Constructivist theory conceptualizes learning as an active and interactive process in which knowledge is constructed based on learners' prior knowledge and learning experiences. Accordingly, the teacher's role shifts from a directive position to a more dialogic and interactive one, grounded in meaning negotiation and learner empowerment. Effective teaching styles are reflected in pedagogical practices such as providing differentiated tasks, offering individualized feedback, and encouraging discussion and collaboration among students (Rosalia, 2024).

In addition to being interactive, Toyama and Yamazaki (2020) stated that effective teaching styles must also be structured to support the management of learners' cognitive load, as explained by Cognitive Load Theory. In foreign language learning, the inherent complexity of instructional materials (intrinsic cognitive load) is often high. Therefore, effective teachers help minimize unnecessary cognitive load (extraneous cognitive load) by presenting information clearly and systematically while reducing distractions. Appropriate cognitive load management enables students to focus their cognitive resources on essential processing, thereby facilitating the formation of stable and meaningful knowledge schemas in long-term memory.

Student Learning Style

Traditionally, learning styles have been defined as individuals' consistent ways of absorbing, processing, and retaining information. It has long been assumed that when instruction is aligned with students' preferred modalities such as visual, auditory, or kinaesthetic learning and material retention would be enhanced. However, the emphasis on learning styles has become the subject of significant academic controversy. Growing criticism, particularly within higher education research, suggests that the claim that matching instructional methods to learning styles improves learning outcomes is conceptually flawed and lacks robust empirical support (Halif et al., 2020). Extensive research, including large-scale studies and meta-analyses, has failed to identify a significant relationship between assessed learning styles and objective academic performance. While students may indeed hold preferences in how they receive information, allocating instructional resources to accommodate preferences that lack statistical significance is increasingly viewed as an inefficient use of educational resources (Abdullah et al., 2024).

Student Engagement

Student engagement, often conceptualized as academic engagement, refers to the degree of optimal intellectual, emotional, and physical involvement demonstrated by students in the learning process (Rayyan et al., 2024). It encompasses observable behaviors such as active



participation in classroom discussions, asking questions, responding to instructional prompts, and engaging in learning tasks. Extensive educational research generally indicates that higher levels of student engagement are associated with improved academic outcomes, as active involvement is assumed to facilitate deeper interaction with learning materials.

Nevertheless, empirical findings regarding the relationship between student engagement and objective academic achievement have been mixed. Several studies suggest that behavioral engagement alone does not consistently predict higher test scores, particularly when engagement remains superficial. Activities such as note-taking or participation in discussions, when not accompanied by meaningful cognitive processing, may reflect compliance rather than genuine learning. This distinction highlights the need to examine not only the presence of engagement behaviors but also their instructional context and cognitive quality (Alsowat, 2016).

In response to these inconsistencies, the present study examines whether student activeness retains a significant predictive contribution to EFL learning outcomes when analyzed simultaneously with teachers' teaching styles and students' learning styles. By employing a multivariate analytical approach, this study seeks to determine whether observable engagement behaviors function as an independent predictor of EFL test performance or whether their influence is contingent upon pedagogical and learner-related factors within higher education contexts.

METHOD

This study adopts a quantitative approach with a causal–associative design (explanatory research), aiming to examine hypothesized cause–effect relationships among the variables. Multiple linear regression analysis was employed to establish a predictive model examining the relationship between three independent variables and one dependent variable.

Participants

The research population consisted of 52 undergraduate students enrolled in the same academic program and cohort. Owing to the relatively small size of the population and its homogeneous characteristics, a probability-based sampling approach was considered appropriate to ensure adequate representation of the target population. To determine a minimum sample size that remained statistically representative while controlling for sampling error, Slovin's formula was applied. Based on the calculation, a total of 46 students were selected as research participants, which was deemed sufficient to represent the population and support subsequent statistical analysis.

The sampling technique employed was Simple Random Sampling (SRS). This technique ensures that each member of the population has an equal opportunity to be included in the sample, thereby minimizing selection bias and enhancing the generalizability of the findings. Given the absence of meaningful population strata, SRS was considered the most appropriate method. The final selection of respondents was conducted randomly using statistical software.

Instruments

Data were collected using two types of instruments: a Likert-scale questionnaire to measure the independent variables Teachers' Teaching Style (X1), Students' Learning Style (X2), and Students' Activeness (X3) and an objective achievement test to assess the dependent variable, English learning outcomes (Y). The questionnaire was designed to capture students' perceptions and learning-related behaviors, while the achievement test was used to obtain an objective measure of EFL proficiency.

Data collection procedures

Instrument validity was established through content validity and criterion-related validity. Content validity was ensured by aligning each questionnaire item with the relevant theoretical indicators of the measured constructs (Puspasari & Puspita, 2022). Criterion-related validity was examined using the Pearson Product–Moment correlation coefficient. The results of the validity analysis indicated that all questionnaire items met the validity criteria, as the calculated correlation coefficients (r-count) exceeded the critical values (r-table).

Instrument reliability was assessed using Cronbach's Alpha to determine internal consistency. The reliability analysis demonstrated high levels of consistency for all questionnaire scales, indicating that the instruments were reliable for data collection. A summary of the reliability coefficients is presented below

Table 1. Results of Internal Instrument Reliability Testing

Variable	Cronbach's Alpha (α)	Reliability Level
Teacher Teaching Style (X1)	0.901	Very High
Student Learning Style (X2)	0.900	High
Student Activeness (X3)	0.829	High

Data analysis

Before conducting the regression analysis, a normality test was administered to verify that the data met the assumption of normal distribution, which is a fundamental requirement for parametric statistical analysis. Because the sample size in this study was relatively small ($n = 46$), the Shapiro–Wilk Test was selected, as it is widely recognized for its higher sensitivity and accuracy in detecting deviations from normality in small samples. The results of the Shapiro–Wilk Test indicate that all research variables obtained significance values (Sig.) greater than 0.05. This finding suggests that the data are normally distributed, thereby fulfilling the normality assumption and confirming that parametric statistical procedures, including regression analysis, are appropriate for further analysis.

Table 2. Normality Test Results (Shapiro–Wilk)

Variable	Significance Value (Sig.)	Distribution Decision
Teacher Teaching Style (X1)	0.344	Normal
Student Learning Style (X2)	0.357	Normal

Student Activeness (X3)	0.438	Normal
Student Learning Outcomes (Y)	0.323	Normal

After the normality assumption was confirmed, multiple linear regression analysis was employed to examine the relationships between the independent variables and the dependent variable. This analytical technique was selected because it allows for the assessment of both the individual and combined contributions of multiple predictors. The partial effects of each independent variable were tested using the t-test, while the simultaneous effect of all independent variables on the dependent variable was examined using the F-test. These tests were conducted to determine the statistical significance and explanatory power of the regression model.

FINDINGS AND DISCUSSION

The results of the multiple linear regression analysis, conducted using SPSS, generated a structural equation that illustrates the relationship among the research variables, as follows:

$$Y = -24.599 + 0.851X_1 + 0.138X_2 - 0.109X_3$$

The constant value of -24.599 indicates that when all independent variables (X_1 , X_2 , and X_3) are assumed to be zero, the learning outcome (Y) would theoretically fall into a negative value. This result highlights the essential role of the independent variables in influencing learning outcomes, particularly pedagogical factors, which contribute substantially to students' academic achievement. In this context, the regression analysis shows that each one-unit increase in teaching style has a positive effect on learning outcomes of 0.851 . This finding implies that improvements in teaching style significantly enhance students' learning outcomes. The effect is statistically very strong, as indicated by the significance value ($\text{Sig.} = 0.000$), confirming that teaching style has a significant influence on learning outcomes. Moreover, learning style also demonstrates a positive coefficient, with each one-unit increase contributing 0.138 to learning outcomes. This suggests that better alignment with students' learning styles may improve learning outcomes. However, the significance value of 0.271 , which exceeds the 0.05 threshold, indicates that this effect is not statistically significant. Conversely, student activeness shows a negative coefficient, where each one-unit increase results in a decrease of 0.109 in learning outcomes. With a significance value of 0.518 , which is greater than 0.05 , this result indicates that student activeness does not have a statistically significant effect on learning outcomes.

Overall, based on the regression coefficients, it can be concluded that teaching style and learning style positively influence learning outcomes, while student activeness has a negative effect. However, only teaching style demonstrates a statistically significant impact on students' learning outcomes. To further examine the effect of each independent variable, partial analysis using the t-test was conducted to determine the individual significance of each predictor on learning outcomes.

Table 3. Partial Regression Coefficient Analysis (t-test)

Variable	Unstandardized Coefficient (B)	Significance (Sig.)	Direction of Influence	Significance Decision (p < 0.05)
(Constant)	-24.599	N/A	N/A	N/A
Teacher Teaching Style (X1)	0.851	0.000	Positive	Significant
Student Learning Style (X2)	0.138	0.271	Positive	Not Significant
Student Activeness (X3)	-0.109	0.518	Negative	Not Significant

Significance of Teacher Teaching Style

The key finding of this study is that the teacher's teaching style (X₁) is the only variable that demonstrates a positive and statistically significant effect on students' English learning outcomes (Sig. = 0.000). The very high regression coefficient ($\beta = 0.851$) indicates that improvements in the quality of teachers' teaching styles lead to substantial gains in students' academic achievement in English. This result underscores the dominant role of instructional practices in shaping learning success, particularly in formal classroom settings.

An engaging teaching style characterized by variation, creativity, and interactivity such as encouraging classroom discussion, integrating collaborative activities, and utilizing educational technology ensures that students do not receive information passively but actively construct their understanding. In the context of English as a Foreign Language (EFL), this approach is especially critical, as language learning requires continuous practice, meaningful interaction, and ongoing negotiation of meaning to develop communicative competence (Kusumaningsih et al., 2024).

When teachers present learning materials in a well-structured manner, provide clear explanations and targeted guidance, and employ focused instructional media, they reduce unnecessary extraneous cognitive load. As a result, students' limited working memory capacity can be optimally allocated to processing intrinsic cognitive load, particularly the complex linguistic schemas involved in grammar acquisition, vocabulary development, and the objective competencies assessed in English learning. This optimized cognitive processing facilitates deeper understanding and more durable learning outcomes (Hornay, 2021).

Overall, these findings reinforce the conclusion that effective teaching style is a crucial determinant of students' English learning outcomes, outweighing individual learner factors examined in this study. Consequently, enhancing teachers' pedagogical competence and instructional strategies should be prioritized as a key intervention to improve English language achievement in EFL classrooms.



Insignificance of Student Learning Style

Students' learning style (X_2) was found to have no statistically significant effect on learning outcomes ($p = 0.271$). Although the regression coefficient is positive ($\beta = 0.138$), the magnitude of this effect is insufficient to reach the threshold of statistical significance. This indicates that variations in students' perceived learning styles do not meaningfully predict differences in their English learning outcomes.

This finding provides local empirical evidence that reinforces a growing international consensus suggesting that tailoring instruction to students' perceived learning style preferences (e.g., visual, auditory, or kinesthetic) does not yield measurable benefits in improving objective academic performance. While many students report having specific learning style preferences, such self-reported preferences are often inaccurate and do not necessarily correspond to the most effective ways in which they learn. As a result, alignment between instructional methods and stated learning styles may have limited pedagogical value (Marwaha & Sharma, 2025).

Given the clear dominance of teachers' teaching style (X_1) in influencing learning outcomes, the findings suggest that universally effective, evidence-based instructional quality is far more important than individualized instructional adjustments based on contested learning style models. Consequently, educational resources and instructional efforts should be redirected away from diagnosing students' learning styles and toward the development of high-quality teaching strategies that optimize learning for all students, regardless of individual preferences (Newton & Miah, 2017).

Negative and Insignificant Coefficient of Student Activeness

The student activeness variable (X_3) was also found to be statistically non-significant ($p = 0.518$). More interestingly, it exhibited a negative regression coefficient ($\beta = -0.109$). This negative coefficient represents an anomaly that challenges the common assumption that higher levels of behavioral engagement invariably lead to better learning outcomes.

This phenomenon requires a more nuanced analysis that distinguishes between behavioral engagement and cognitive engagement. Questionnaire-based measures of student activeness tend to capture observable behaviors, such as participating in discussions, taking notes, or avoiding boredom. However, when these behavioral activities are not supported by focused cognitive processing such as when discussions become unproductive, overly social, or when teachers are ineffective in managing collaborative activities the behavioral effort expended by students may instead function as an extraneous cognitive load. This additional load can interfere with concentration on core cognitive tasks, such as understanding grammatical structures or mastering the language competencies being assessed (Zhong et al., 2025).

These findings suggest that the quantity of student activity (how often students participate) is less relevant than the quality and focus of that engagement. This interpretation aligns with prior research indicating that even instructional designs intended to increase engagement can produce mixed outcomes or inadvertently reduce certain types of meaningful engagement if they are not carefully implemented. Ultimately, academic success is more accurately predicted by deep cognitive investment, which must be carefully guided and structured through effective teacher instruction (X_1).



CONCLUSION

This study examined the effects of Teacher Teaching Style, Student Learning Style, and Student Activeness on English Learning Outcomes among English Education student. The results of the multiple linear regression analysis indicate that only Teacher Teaching Style has a positive and statistically significant influence on learning outcomes ($\beta = 0.851$, $p = 0.000$). In contrast, Student Learning Style and Student Activeness were found to have no significant effects, as reflected by their respective p-values ($p = 0.271$ and $p = 0.518$). These findings suggest that external pedagogical factors, particularly instructional quality, play a more dominant role in predicting objective academic achievement than the internal learner-related factors measured in this study.

From a theoretical perspective, the insignificance of Student Learning Style provides local empirical support for the growing body of international research that questions the validity of the learning styles hypothesis as a foundation for instructional design. Rather than tailoring instruction to presumed individual learning styles, effective teaching should be grounded in universally supported pedagogical principles, such as constructivist learning approaches, clear instructional scaffolding, and effective cognitive load management. The strong influence of Teacher Teaching Style reinforces the argument that well-structured, engaging, and pedagogically sound instruction is central to successful language learning outcomes.

In terms of practical implications, educators are strongly encouraged to prioritize the continuous improvement of their teaching styles by diversifying instructional strategies, integrating appropriate technology, facilitating structured classroom discussions, and providing meaningful individual feedback. Although Student Activeness did not show a significant effect, classroom practices should still emphasize purposeful cognitive engagement rather than superficial or purely behavioral participation, particularly in light of the negative coefficient observed for activeness. For future research, more sophisticated analytical models, such as path analysis or Structural Equation Modeling, are recommended to explore Student Activeness as a potential mediating or moderating variable. Additionally, mixed-methods approaches incorporating qualitative classroom observations may offer deeper insights into the distinction between productive and non-productive forms of student participation and their impact on learning outcomes.

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