

IMPACT OF TEACHER PROFESSIONAL COMPETENCY AND STUDENT LEARNING INTENSITY ON STUDENT ACHIEVEMENT

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Abstract

The research investigates the impact of teacher professional competency and student learning intensity on student achievement, specifically in English subjects. The background of the issue highlights the importance of understanding how these two variables influence educational success. It emphasizes that teacher competency and student engagement are critical factors that can significantly impact students' academic performance and overall learning experiences. The novelty of this research lies in its dual focus on teacher professional competency and student learning intensity as independent variables affecting student learning outcomes. This research includes aspects of learning intensity, providing a more comprehensive understanding of the factors contributing to educational success. This quantitative research methodology uses statistical techniques to analyze data collected through questionnaires. The questionnaire consists of 35 items that the researcher adapted. The results of this research highlight the importance of increasing the intensity of student learning as an essential factor in improving educational outcomes while recognizing the role of teacher competence in the learning environment.

Abstrak

Penelitian ini menyelidiki dampak kompetensi profesional guru dan intensitas belajar siswa terhadap prestasi siswa, khususnya dalam mata pelajaran bahasa Inggris. Latar belakang masalah menyoroti pentingnya memahami bagaimana kedua variabel ini mempengaruhi keberhasilan pendidikan. Penelitian ini menekankan bahwa kompetensi guru dan keterlibatan siswa merupakan faktor penting yang dapat secara signifikan mempengaruhi prestasi akademik dan pengalaman belajar siswa secara keseluruhan. Kebaruan dari penelitian ini terletak pada fokus ganda pada kompetensi profesional guru dan intensitas belajar siswa sebagai variabel independen yang mempengaruhi hasil belajar siswa. Penelitian ini mencakup aspek intensitas belajar, memberikan pemahaman yang lebih komprehensif tentang faktor-faktor yang berkontribusi terhadap keberhasilan pendidikan. Metodologi penelitian kuantitatif ini menggunakan teknik statistik untuk menganalisis data yang dikumpulkan melalui kuesioner. Kuesioner terdiri dari 35 pertanyaan yang telah diadaptasi oleh peneliti. Hasil penelitian ini menyoroti pentingnya meningkatkan intensitas belajar siswa sebagai faktor penting dalam meningkatkan hasil pendidikan sambil mengakui peran kompetensi guru dalam lingkungan belajar.

INTRODUCTION

Education is the most crucial element in societal advancement. The quality of instruction and the degree of student dedication substantially impact academic outcomes (Snijders *et al.*, 2020). Teachers' professional capabilities encompass subject matter expertise, pedagogical proficiency, and the capacity to engage students, which are frequently linked to enhanced student learning experiences and achievement (Filgona *et al.*, 2020). Moreover, academic success is believed to be contingent upon the extent of student engagement in learning activities, such as concentration, study time, and active participation. The assessment of a student's learning outcomes can facilitate the understanding of their academic performance. Achievement tests are employed to evaluate a student's advancement in their academic pursuits (Jawad *et al.*, 2021). A favorable outcome is anticipated when all students endeavor to enhance their knowledge and skills (Ohara, 2023). Numerous factors can facilitate students' learning processes. The results achieved by students throughout the learning process can be employed to gauge their advancement in knowledge and skills. These outcomes are regarded as a key indicator of academic success, with all students aiming to attain the highest possible levels of achievement (Gamage *et al.*, 2021). So, the achievement of academic success is contingent upon the provision of effective teaching, student engagement, and ongoing assessment. These factors facilitate the attainment of advanced levels of knowledge and skills by students, which in turn contributes to the advancement of society through education.

According to (Asim *et al.*, 2021), learning outcomes demonstrate the competencies that students attain throughout the learning process. Learning outcomes and achievements are congruent, as learning outcomes constitute an integral component of student learning achievements. (Agustian *et al.*, 2022) States that student learning outcomes and grades are essential components of the broader construct of student learning achievement. (Rafiola *et al.*, 2020) Posits that student learning success is influenced by a multitude of factors, both internal and external. Internal factors pertain to the individual student, encompassing interest, motivation, and potential. External factors relate to the learning environment, family support, and the role of the teacher.

Considering the argument above, this study will focus on external and internal elements, particularly emphasizing the role of teachers in their professional competency and learning intensity or habits. It is widely believed that the academic outcomes achieved by students are significantly influenced by two key factors: the professional competency of teachers and the intensity of students' learning. The capacity of instructors to oversee the learning process, wherein knowledge, abilities, and foundational values are reflected in professional thought and behavioral patterns, is defined as teacher competence. This competence illustrates a teacher's capacity to apply a constructive attitude toward learning, a crucial skill (Hessal Alif *et al.*, 2020). Competent instructors possess a profound understanding of their work, including student characteristics, curriculum materials, classroom management, and the application of effective learning approaches. (Aliyyah & Rusdiyanto, 2021) Competence can be defined as the capacity or ability of an individual to perform a range of duties within the context of a specific employment role.

By the stipulations outlined in Government Regulation No. 19/2005 on National Education Standards, Chapter VI, Article 28, educators are obliged to possess the following qualifications: (1) academic qualifications, competence, physical and spiritual health, and capacity to achieve the national education goals; and (2) academic qualifications, which represent the minimum education standards that must be met (Ulfa, 2023). By the relevant legislation, educators must possess the requisite qualifications, as evidenced by the presentation of relevant diplomas and certificates of expertise (Sholihah *et al.*, 2020). Concerning primary and secondary education, teachers are expected to demonstrate proficiency in four domains: personal skills, professional skills, pedagogical skills, and social skills. Teachers play a pivotal role in enhancing the quality of education, particularly in formal educational institutions (Suryanto *et al.*, 2023). Consequently, this study will concentrate on one of the four teacher competencies, namely teacher professional competence, as this competency is believed to influence student learning outcomes significantly. Professional competence is defined as the ability of

educators to demonstrate a comprehensive understanding of the art, science, and technology inherent to their field (Skantz-Åberg *et al.*, 2022). Professional competence encompasses the teacher's capacity to thoroughly understand the subject matter, enabling them to assist students in attaining national competency standards. This competency encompasses three key elements: subject matter comprehension, effective classroom management, and the strategic integration of media and learning aids. The significance of professional competence, defined as the teacher's capacity to demonstrate a comprehensive understanding of the subject matter, is to facilitate students' attainment of optimal learning outcomes. Professional competence enables teachers to optimize the teaching process, which in turn has a positive impact on student learning outcomes. Professional educators possess the requisite skills to deliver effective teaching (Murkatik *et al.*, 2020). In addition to teacher competence, this study considers the student perspective, particularly regarding learning intensity. Learning intensity can influence student learning outcomes, as each student possesses a unique level of intensity. The duration of learning is not as crucial as its consistency; repetition over time can facilitate the development of automaticity and lead to the formation of habits.

Intensity is an action that is repeated unconsciously over a long period. Changes in learning are characterized by increases in students' knowledge, understanding, skills, values, and attitudes (Díez-Palomar *et al.*, 2020). As noted (Hsiao & Su, 2021), students' intensity of learning greatly affects how well they achieve learning goals or learning outcomes. Students with high study intensity are better able to manage their time and are more motivated to learn and remember difficult material more easily. Study intensity also helps students become more prepared to study regularly. The researcher is interested in conducting research titled "Impact of Teacher Professional Competency and Student Learning Intensity on Student Achievement in English Studies Class VIII at MTs N 1 Bukittinggi."

METHODS

This study employed a quantitative descriptive design. The participants in this study were eighth-grade students at MTs N 1 Bukittinggi, which involved 36 students. The students were questioned about their teacher's professional competence, learning intensity and achievement in the English class. This questionnaire research required approval from the deputy head of curriculum; thus, the research was approved to adhere to the regulations for data confidentiality. Furthermore, the students were informed about the study's purpose and procedures before completing the questionnaire, ensuring voluntary participation. Finally, the participants submitted the completed questionnaires directly to the researcher. This research used a questionnaire developed by (Khotimah & Malik, 2019) to measure teacher professional competency. The indicators are the ability to plan teaching and learning programs, master subject matter, and implement/manage the teaching and learning processes. Then, the questionnaire on students' learning intensity (20 items) was defined by (Wulandari, 2011, n.d.). The indicators are intrinsic, extrinsic, feeling, attention, involvement and activeness. Teacher professional competency and students' learning intensity were measured on a Likert scale. Student performance in English was assessed based on the mean score achieved by each student on the lesson examinations. The scores ranged from 10% to 100%. These values were then converted into an interval scale, ranging from 1 (1-29) to 5 (85-100). In this study, the data were analyzed through descriptive statistics and correlational statistics.

RESULT AND DISCUSSION

RESULT

The research result was obtained through a questionnaire that contained teacher professional competency (x) and student learning intensity (y) on student achievement (z).

Table 1. Descriptive statistics teacher professional competency (x) and student learning intensity (y) on student achievement (z)

X	
Mean	64
Standard Error	1
Median	64
Mode	68
Standard Deviation	5
Sample Variance	23
Kurtosis	0
Skewness	0
Range	22
Minimum	51
Maximum	73
Sum	2286
Count	36

Y	
Mean	79
Standard Error	1
Median	78
Mode	78
Standard Deviation	7
Sample Variance	44
Kurtosis	0
Skewness	0
Range	28
Minimum	66
Maximum	94
Sum	2836
Count	36

Z	
Mean	86
Standard Error	1
Median	86
Mode	85
Standard Deviation	4
Sample Variance	18
Kurtosis	-1
Skewness	0
Range	16
Minimum	80
Maximum	96
Sum	3099
Count	36

Table 1. The results of the descriptive statistics indicate that variables X, Y, and Z exhibit disparate characteristics. The mean value for variable X is 64; for variable Y, it is 79; for variable Z, it is 86, indicating that variable Z has the highest mean value. The data distributions of the three variables are symmetrical, indicated by a skewness value of 0. Variable Z, however, has a slightly flatter distribution than variables X and Y, as indicated by a kurtosis of -1. In terms of spread, variable Z has the smallest spread with a standard deviation of 4 and a range of 16, indicating that Z's data is more concentrated around the mean. In contrast, variable Y exhibits the greatest dispersion, with a standard deviation of 7 and a range of 28, indicating a more extensive variation in values. Variable X is situated between the other two variables, with a standard deviation of 5 and a range of 22.

Table 2. Summary Regression Statistics

R	R Square	Adjusted R Square	Standard Error
.604	.663	.530	.41382

Table 2 presents the model's regression statistics correlating the independent variables (teacher competence and student learning intensity) with the dependent variable (student performance). The R-value of 0.604 indicates a moderate correlation between the independent and dependent variables. The R-squared value of 0.663 suggests that this regression model can explain approximately 66.3% of the variation in student performance. However, after accounting for the number of predictors in the model, the adjusted R-squared value of 0.530 indicates that only approximately 53% of the variation in student performance can be explained. This suggests that the model may not fully account for the observed variation in student performance. Furthermore, the standard error value of 0.41382 reflects the average discrepancy between the observed values and the values predicted by the model, providing insight into the model's predictive accuracy. While this model explains a significant portion of the variation in student performance, it is important to note that other factors may also influence student outcomes, which are not included in this model.

Table 3. ANOVA Result

	Sum of Squares	df	Mean Square	F	Sig.
Regression	25,117	1	2.511	66.663	0,01
Residual	12,810	34	3.767		

Total	35
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Table 3. The ANOVA results indicate that the regression model explains a significant portion of the variance in the dependent variable. The sum of squares for regression is 25.117 with 1 degree of freedom (df), yielding a mean square of 25.117. The F-value is 66.663, statistically significant, with a p-value of 0.01, indicating that the regression model is a good fit. The residual sum of squares is 12.810 with 34 degrees of freedom, resulting in a mean square of 0.3767. The total sum of squares is 37.927, combining the regression and residual sums. These findings suggest a relationship between teacher professional competency and student learning intensity on student achievement, with the regression model explaining a significant amount of variance.

DISCUSSION

Student learning achievement is influenced by both teacher professional competence and student learning intensity. The findings indicate that both variables contribute significantly to student success, with teacher competence exerting a slightly greater influence. The results were obtained through quantitative analysis, which employs descriptive and regression statistics. Descriptive statistics provide an overview of teacher competency levels and learning intensity, while regression analysis gauges their impact on student achievement. Teacher competence and student learning intensity have a moderate correlation ($R = 0.604$) with student performance.

The results demonstrate that professional competency encompasses mastery of subject matter and pedagogical skills that effectively engage students. Students with high learning intensity are more likely to achieve superior academic performance if they invest consistent time and effort into studying. Prior studies have indicated that teacher quality and student engagement are pivotal to academic success.

The findings are consistent with constructivist learning theory, which posits that teachers should act as facilitators and students as active participants in the learning process (Tsehay *et al.*, 2024). The results also support theories of educational productivity, such as Walberg's model, which posits that teacher effectiveness and student engagement are among the key determinants of academic performance (Bentsi-Enchill, 2024). This study confirms that teacher professional competency significantly affects eighth-grade students' learning intensity and achievement, particularly in English classes at MTs N 1 Bukittinggi.

CONCLUSION

Teachers' professional competencies, including pedagogical ability, material mastery, and communication skills, influence student achievement considerably. Competent teachers can establish an effective learning environment and motivate students to achieve the best learning outcomes. The intensity of students' study habits, encompassing the frequency, duration, and consistency of their studying, plays a pivotal role in their academic success. Students engaging in more intensive studying are more likely to gain a comprehensive understanding and achieve higher levels. The quality of student achievement is markedly enhanced when the expertise of professional educators is integrated with a high level of student engagement in the learning process. The beneficial interplay between these two elements creates a synergistic effect that facilitates a more productive learning experience. The research indicates that ongoing teacher training, professional development, and innovative learning approaches tailored to the student's needs can significantly enhance learning outcomes.

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