



The Influence of Teacher Performance on the Academic Achievement of Eleventh Grade Students in Light Vehicle Engineering

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Abstract: The purpose of this study is to determine whether there is an influence of teacher performance on the academic achievement of eleventh-grade students in SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year. The research employs quantitative and descriptive methods. The population includes all eleventh-grade students in the Light Vehicle Engineering program at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year who are Protestant Christians, totaling 60 individuals. The instrument was piloted on 30 respondents, specifically twelfth-grade students for the 2023/2024 academic year at SMK Swasta Nusantara Siborongborong, North Tapanuli Regency. The test yielded 20 valid items as the calculated r-values (ranging from 0.485 to 0.783) exceeded the critical value ($r_{table} = 0.361$). This research is a population study. The research instruments included a closed-ended questionnaire for variable X and Midterm Exam scores for variable Y. Data analysis results indicate the following: regression equation, the determination test shows an influence magnitude of 22.18%, and hypothesis testing revealed that the calculated t-value (4.066) is greater than the critical t-value (2.021), leading to the rejection of H_0 and acceptance of H_a . The study concludes that there is a positive influence of teacher performance on the academic achievement of eleventh-grade students in the Light Vehicle Engineering program at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year.

Keywords: Teacher Performance, Academic Achievement, Light Vehicle Engineering.

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Introduction

Education is a human endeavor aimed at realizing qualities of faith and piety towards the One Almighty God, noble character, advanced and resilient personality, intelligence, creativity, discipline, professionalism, responsibility, productivity, and physical and spiritual health (Tanjung, 2022). Law Number 20 of 2003 Article 1 paragraph 1 on the National Education System states that: Education is a conscious and planned effort to create a learning atmosphere and learning processes so that students actively develop their potential to have spiritual strength, self-control, intelligence, noble character, and the skills needed for themselves, society, nation, and state.

Improving students' potential and achievements is done by enhancing the performance of teachers, as teachers are the key to students' success in education. By maximizing teacher performance, it is hoped to create students who have good and outstanding achievements in line with the established educational objectives. This means that if teachers involved in teaching activities have good performance, they will be able to improve the quality of school learning, one way being to motivate students to

study more diligently in the teaching and learning process (Lal et al., 2023).

Teachers are professional educators with the main tasks of educating, teaching, guiding, directing, training, assessing, and evaluating learners in early childhood education, formal education, and secondary education. One policy to make teachers professionals is not only to improve their competence through training or opportunities for further learning, but also to pay attention to other aspects such as disciplinary improvement, motivation provision, guidance through supervision, incentive provision, and providing a decent salary commensurate with their professionalism so that teachers can be satisfied working as educators. Teachers as implementers are the key to achieving educational goals. In this regard, teachers with good performance can produce intelligent and accomplished graduates (Marbun, 2022).

Teacher performance in education encompasses several aspects including mastery of teaching materials, classroom management, use of media or learning resources, ability to evaluate learning, mastery of educational foundations, managing teaching-learning interactions, conducting teaching to improve learner

achievement, functions and guidance and counseling service programs, organizing school administration, and understanding research principles in education for teaching purposes (Potgieter & van der Walt, 2014).

Teacher performance is the result of work that can be achieved by teachers in an organization (school), in accordance with the authority and responsibility given by the school in efforts to achieve the vision, mission, and objectives of the school legally, without violating the law and in accordance with morals and ethics. Good teacher performance is expected to improve the quality of students' knowledge. One indicator of the quality of students' knowledge directly influenced by teacher performance is academic achievement. Academic achievement can provide a description of students' skills in a particular subject. Students' skills are directly influenced by the quality of teaching provided by teachers, so teachers are required to have adequate performance. There are three indicators in assessing teacher performance in schools, namely planning, implementation, and evaluation. These three indicators are interrelated in creating good teaching quality and improving student academic achievement (Ariawan, 2020).

Students' academic achievement is influenced by two main factors, namely factors within students and factors coming from outside students or environmental factors. The ability factor of students greatly influences the learning outcomes achieved, students' learning outcomes in schools are 70% influenced by the ability of students and 30% influenced by the environment.

Similarly, during the learning process, teachers are expected to be able to foster, maintain, and increase students' learning motivation, because in the learning process, teachers must strive to always maintain and increase students' learning motivation. To achieve these aspirations and hopes and at the same time improve the quality of teacher performance that can produce accomplished students, support is needed from all parties involved, including the school itself, the community environment including families, and even the government (McLendon, 2017).

Based on observations in the field or phenomena, it is evident that teachers' performance in teaching is well implemented, but the results or academic achievements of students are still relatively low. Therefore, in this case, it is a special concern for teachers to further enhance teacher performance as an effort to influence the improvement of students' academic achievements. Such learning conditions should not be allowed and solutions are needed to create a creative classroom atmosphere during the learning process.

This study aims to examine the influence of teacher performance on the academic achievement of eleventh-grade students in the Light Vehicle Engineering program at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year.

Method

The research method employed is descriptive quantitative. The population comprises all 60 Protestant Christian students in the XI Light Vehicle Engineering class at Nusantara Private Vocational School (SMK) in Siborongborong for the 2023/2024 academic year. The instrument that was developed was tested on 30 respondents, specifically the XII-grade students of the 2023/2024 academic year at Nusantara Private Vocational School in Siborongborong, North Tapanuli Regency.

Results

Based on the results of the research, there is an influence of organizational climate on achievement motivation, with the magnitude of the influence being 11% (path coefficient between X_1 and X_3 ($p31 = 0.34$)). From the data obtained and the results of statistical calculations, the following information is known: the lowest score = 60, the highest score = 78, average = 69.02, mean = 69.1, mode = 63.57, median = 69.3, and standard deviation = 5.17. The overall average score of teacher performance is 3.45, and this score falls into the good category.

From the data obtained and the results of statistical calculations, the following information is known: the lowest score = 23.67, the highest score = 87.33, average = 72.72, mean = 72.94, mode = 74.37, median = 73.67, and standard deviation = 10.79. The overall average score of student academic achievement is 72.72, and this score falls into the sufficient category.

From the list of Midterm Exam scores for the odd semester of the 2023/2024 academic year, it is known that the academic achievement of students from the Midterm Exam scores for the odd semester of the 2023/2024 academic year shows an overall average score of 72.72, which is above the minimum passing grade of 65.

The calculation results show $\chi^2 = 3.175$, which is then compared to the χ^2 table value with $\alpha = 0.05$ and degrees of freedom ($k-2 = 7-2 = 5$), where the χ^2 table = 11.0705. Since $\chi^2 = 3.175 < \chi^2$ table = 11.0705, it can be concluded that the data for variable X (teacher performance) is normally distributed.

The calculation results show $\chi^2 = 4.273$, which is then compared to the χ^2 table value with $\alpha = 0.05$ and degrees of freedom ($k-2 = 7-2 = 5$), where the χ^2 table = 11.0705. Since $\chi^2 = 4.273 < \chi^2$ table = 11.0705, it can be concluded that the data for variable Y (student academic achievement) is normally distributed.

The calculated F value is compared with the F table value with numerator degrees of freedom ($k = 2$) and denominator degrees of freedom ($n-2 = 58$) at a 5% error level, where the F table value = 3.15. In this case, the rule applies that if F calculated < F table, the variance is homogeneous, and conversely, if F calculated > F table, the variance is not homogeneous. Based on the results, F calculated = 2.087 compared to F table = 2.087, meaning F calculated < F table = 2.087 < 3.15. Thus, it can be concluded that the data variance to be analyzed is homogeneous.

The analysis can be continued by calculating the regression equation. The regression equation can be used to predict how high the dependent variable value will be if the independent variable value is changed. By inserting the values obtained from the data calculation, the regression equation shows that with a constant = 4.98, for every unit increase in variable X (teacher performance), there will be an increase in variable Y (student academic achievement) by 0.98 units of the value (variable X). Based on the calculation of r_{xy} using the Pearson Product Moment Correlation formula, the value obtained is $r_{xy} = 0.471$.

If t calculated > t table or $-t$ calculated < $-t$ table, then H_0 is rejected and H_a is accepted. If t calculated $\leq t$ table, then H_0 is accepted and H_a is rejected. The calculated t value is 4.066. This calculated t value is then compared to the t table value for an error of $\alpha = 5\% = 0.05$ two-tailed test and degrees of freedom ($n-2 = 60-2 = 58$), where t table = 2.000. It is known that t calculated = 4.066

$> t_{table} = 2.000$, thus it can be concluded that H_0 is rejected and H_a is accepted, meaning there is a positive influence of teacher performance on the academic achievement of eleventh-grade students in the Light Vehicle Engineering program at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year.

Based on the research conducted on the eleventh-grade students of Light Vehicle Engineering at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year, the results from the distribution of student responses regarding teacher performance revealed that the highest scoring item was number 20, with a score of 223 and an average value of 3.72. This item indicated that the teacher always checks student attendance in the classroom daily before the learning process begins. The lowest scoring item was number 12, with a score of 196 and an average value of 3.27, where some students indicated that the teacher sometimes provides learning outcomes to students after the evaluation following the learning process. The overall average achievement of teacher performance was 3.45, which falls into the good category, meaning the teachers have demonstrated good performance in fulfilling their teaching and educational responsibilities, enabling students to achieve good academic performance in school.

The academic performance of students, based on the Midterm Exam scores showed that the overall average score of the eleventh-grade students in Light Vehicle Engineering was 72.72, which is above the minimum passing grade of 65.

From the regression test, the following results were obtained:

- a. The regression equation indicates that with a constant = 4.98, for every unit increase in teacher performance, the academic achievement of the eleventh-grade students in Light Vehicle Engineering at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year will increase by 0.98.
- b. From the calculations, it was found that $r^2 = 0.2218$. From the determination value (r^2), it can be determined that the percentage influence of teacher performance on the academic achievement of the eleventh-grade students in Light Vehicle Engineering at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year is: $(r^2) \times 100\% = 0.2218 \times 100\% = 22.18\%$, with 77.82% influenced by other factors as explained in the literature review, including internal factors such as health, intelligence, attitude, talent, and interest, and external factors such as family environment, school environment, and community environment.

From the hypothesis test, the analysis of variance revealed a t-value of 4.066, which is greater than the t-table value for a two-tailed test with an error of $\alpha = 5\% = 0.05$ and degrees of freedom ($n-2 = 60-2 = 58$), where the t-table value is 2.000. Since the t-value (4.066) $> t_{table}$ (2.000), it can be concluded that H_0 is rejected and H_a is accepted, indicating a positive influence of teacher performance on the academic achievement of the eleventh-grade students in Light Vehicle Engineering at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year.

Academic achievement refers to the educational assessment of a student's progress in all subjects studied at school, encompassing knowledge or skills as indicated by research outcomes. Academic achievement as the success of a student's learning ability in performing learning activities according to the achieved weight.

Achievement signifies the results achieved. Meanwhile, learning is a process involving interaction between individuals and their environment. It is an assessment of the results of learning activities expressed in symbols, numbers, letters, or sentences that reflect what each child has achieved over a period.

Based on the above opinions, the author understands that students' academic achievement is inseparable from the reciprocal relationship between teachers and students during the learning process, resulting in good interaction between teachers and students and among students in the classroom. The abilities possessed by students impact the school, as seen from their academic achievements facilitated by teachers' instruction in class. Students or learners are benchmarks for a school regarding their academic achievements, which are the overall results of school learning activities, typically measured through evaluative assessments.

In students' academic achievement, the teacher's role as an educator in school is crucial. Teachers have duties and responsibilities to develop students' potential through classroom instruction and how they approach students who lack earnestness in learning. The influence of teachers impacts students' academic achievement, as evidenced by students who earnestly follow the learning process in the school environment and have a desire to develop their potential, improving their attitude and learning.

This implies that learning and assessment should develop students' competencies related to affective (attitude), cognitive (knowledge), and psychomotor (skills) domains. Academic achievement assessment is a technique used to determine the level of students' academic achievement in specific subjects according to the competencies set in the curriculum. Teachers in schools widely use academic achievement assessment to gather and describe students' academic achievements through tests and non-test methods. The result of an achievement is the value of a student's ability in the learning process after realizing cognitive, affective, and psychomotor aspects.

Cognitive assessment evaluates knowledge at the level of a subject that demands a certain aspect of knowledge. Indicators include:

1. Knowledge Level: Requires students to summarize the presented material.
2. Comprehension Level: Involves the ability to explain known knowledge and information in one's own words. Students are expected to observe learning well.
3. Application Level: The ability to apply learned information in new situations and solve various problems arising in daily life. Students should be able to apply and understand the learning material.
4. Analysis Level: The ability to identify, separate, and examine components of a fact, concept, opinion, assumption, hypothesis, or conclusion. Students are expected to provide examples, analyze accurately, and classify learning effectively.
5. Evaluation Level: Students are expected to critique issues in learning. Evaluation here leans more toward evaluative assessment.

The affective domain involves behavioral traits such as feelings, interests, attitudes, emotions, or values. The affective domain determines the success of learning, as those without interest in certain subjects find it challenging to achieve optimal academic

success. Those interested in a subject are expected to achieve optimal learning outcomes. Indicators of affective achievement include: Demonstrating acceptance of the material, Responding appropriately, Appreciating others, Being able to cooperate in groups (Ariawan, 2019).

The psychomotor domain relates to physical movement skills, such as running, stepping, drawing, speaking, assembling, or disassembling equipment. Students who have achieved basic competencies in this domain can perform tasks in the form of skills according to standards or criteria.

Factors influencing academic achievement include: Internal Factors (Health, Intelligence/ability, Student attitudes, Student talents, Student interests), External Factors (Family, School, Community, Surrounding environment), and Instrumental Factors/A set of equipment in various forms and types is necessary to direct objectives, including: (Curriculum, Programs, Facilities and infrastructure, Teachers).

From the above explanation, the author understands that the mentioned factors are mutually supportive and complementary, ensuring that students achieve good learning outcomes. This occurs because students' academic achievement is closely related to influencing factors. Students should balance study time with activities inside and outside school.

Performance originates from the word "work," meaning achievement or work results. Performance refers to activities conducted to execute, complete tasks, and responsibilities according to established expectations and goals. Fattah states that performance is the ability based on knowledge, attitude, skills, and motivation in performing a job. Performance demonstrates the result of efforts made in completing a particular task, thus having value and achievement, serving as a benchmark for determining success. Good performance is essential in education to support its effectiveness (Elsy, Boose, 2020).

Performance is the level of task execution achieved by an individual using their abilities and established limitations. Teachers, as professional educators, are responsible for educating, teaching, guiding, directing, training, assessing, and evaluating students. Further, teacher performance is the work results manifested in knowledge, skills, values, and attitudes in fulfilling duties and functions, shown in their appearance, actions, and achievements. Teacher performance indicates a teacher's ability to carry out tasks in school and the actions displayed during teaching activities. Teacher performance is fundamentally directed towards an educator's behavior in their work and the effectiveness in carrying out duties and responsibilities, influencing students towards desired goals.

It is understood that teacher performance is the result achieved by teachers during their duties and responsibilities in school, impacting students' academic achievement. Teachers, as educators, must identify students' strengths and weaknesses to uncover each individual's potential. This benefits the school through students' achievements, as teachers are crucial indicators in the teaching and learning process in the classroom. Indicators of teacher performance can be seen from the following competencies: Mastering teaching materials, Managing learning programs, Effectively managing the classroom, Understanding and utilizing learning media, Mastering educational foundations, Managing

learning interactions, Assessing student academic achievements, Providing guidance and counseling services, Conducting school administration).

Teacher performance evaluation is based on teacher competency standards, which are measures established or required in the form of knowledge mastery and actions necessary for occupying a functional position according to task fields, qualifications, and education levels. Teacher competency standards are divided into three interrelated components: learning management, professional development, and academic mastery.

The author concludes that teacher performance significantly influences students' academic achievement, as teachers must have the capabilities to realize their performance accurately and effectively. Teachers, as professional educators, are responsible for educating, teaching, guiding, directing, training, assessing, and evaluating students.

Conclusion

Refers to the outcomes manifested through the knowledge, skills, values, and attitudes of teachers in performing their duties and functions, as demonstrated in their performance, actions, and work achievements. The indicators of teacher performance are: 1) planning the learning process, 2) implementing the learning process, 3) evaluating learning outcomes, 4) supervising the learning process, 5) mastering the teaching material, 6) managing the learning program, 7) managing the classroom, 8) utilizing learning media, 9) managing learning interactions, and 10) assessing students' learning achievements.

Students' academic achievement is the attainment achieved by students through the education they receive at school, serving as evidence that there are measurable results impacting the school. The indicators of students' academic achievement include cognitive learning outcomes, affective learning outcomes, and psychomotor learning outcomes, obtained from the mid-semester exams of the odd semester for the 2023/2024 academic year.

From the research results, it is known that the hypothesis is accepted. It can be concluded that there is a positive influence of teacher performance on the academic achievement of XI Light Vehicle Engineering students at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year, amounting to 22.18%. Based on theoretical and research results, it can be concluded that with improved teacher performance, the academic achievement of XI Light Vehicle Engineering students at SMK Swasta Nusantara Siborongborong for the 2023/2024 academic year will increase.

Based on the research conducted, the author makes the following recommendations: This research suggests improving the performance of teachers, especially in vocational high schools. Teachers should maintain and further enhance their performance by assessing students' abilities. Teachers should strive to improve their own achievements as educators, sharing knowledge with their students. Teachers should address areas where performance is still low, such as the occasional provision of learning outcomes to students after evaluations. It is recommended that teachers consistently provide feedback on evaluations to students so that they are aware of their learning achievements and can be motivated to improve, especially those who receive low scores. Students should maintain their good academic achievements by continuing

to practice disciplined, diligent, and organized study habits, which will enable them to achieve good exam results at school. Students should improve their lower academic performance by studying diligently, completing assignments regularly, and thoroughly reviewing the material taught by teachers, to better prepare for exams and achieve better academic results. Future researchers who wish to study teacher performance are encouraged to explore other variables that influence teacher performance. It is hoped that future researchers can use this study as relevant material for their own research.

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