

The Influence of Infrastructure and Teacher's Work Motivation on Student's Learning Achievement

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Abstract: This research aims to determine the influence of infrastructure and student learning motivation on the learning achievement of SMPN 01 Jayapura OKU Timur. This type of research is quantitative research with a research design using an ex post facto research design. The sample in this study were students of SMPN 01 Jayapura, East OKU Regency, class IX, and class VIII groups A-C, totaling 114 students. The data collection technique used a questionnaire. Data analysis techniques use quantitative descriptive analysis techniques and multiple regression. The results of this research state that there is significant influence partially and jointly between infrastructure and teacher's work motivation on student's learning achievement at SMPN 01 Jayapura OKU Timur. It implies to all stakeholders of education in Indonesia to pay more attention toward infrastructure and work motivation to gain good student's learning achievement.

Keywords: Infrastructure, Student's Learning Achievement, Teacher's Work Motivation

A. Introduction

Education is crucial to a nation's development because it produces morally and intellectually admirable citizens and allows for the study of scientific and technological advancements, both of which have the potential to improve a country's circumstances significantly. As a result, for educational success, institutions of higher learning must raise student achievement. According to Santosa et al. (2020), student accomplishment is evidence of successful learning. All facets of education must work together to the fullest extent possible to raise student accomplishment, as this trait can characterize both high and low levels of student learning success. According to Widodo (2015) research findings, low learning achievement is one of the factors contributing to Indonesia's poor educational quality. Then, according to Oktriany et al (2015), high student accomplishment, both in academic and non-academic domains, indicates high-quality school output. Schools must be able to optimize the management of infrastructure and facilities that

can support the teaching and learning process so that it can function efficiently to improve student learning outcomes. Harso (2012) asserted that infrastructure and facilities have an impact on how well students learn in classrooms. The fulfillment of educational facilities and infrastructure is not the only requirement for student learning achievement; good management is also necessary to ensure the continued operation of these resources (Hariani et al., 2019). This means that if the infrastructure and facilities are not managed effectively, they cannot be utilized to their fullest potential in terms of giving students the skills and opportunities they need to reach their desired learning outcomes. According to Ngeno et al., (2021), student accomplishments can be impacted by the availability of facilities and infrastructure that are appealing, hygienic, practical, and comfortable.

Learning activities are fully directed toward developing the domain of knowledge, skills, and attitudes as a whole through a scientific approach, according to Permendikbud number 65 of 2013 concerning Elementary and Secondary Education Process Standards. This is strengthened by the application of research-based learning (discovery/inquiry learning) and learning that produces work based on problem-solving (project-based learning). Therefore, infrastructure and facilities that support students' learning processes are required to achieve the established criteria for both the content and educational process. The research findings Sitirahayu & Purnomo (2021) indicate that learning facilities are a factor that can boost student learning accomplishment, which lends credence to the aforementioned argument.

Because pupils can study more effectively the more comprehensive the learning resources are. Encourage, expedite, and enhance pupils' self-directed learning. Learning facilities are necessary to attain student learning achievement because the autonomous learning process will yield the best results in terms of student learning achievement. Then, according to a study by Inayah et al. (2021), infrastructure has a significant impact on students' motivation to learn, meaning that infrastructure and facilities are crucial to promoting high-quality instruction. Owned learning facilities that are completer and more suitable can help teachers fulfill their responsibilities as educators. There is a direct connection between students, teachers, and schools because of the infrastructure. Infrastructure will aid in the education of students.

Teacher job motivation is another aspect that can impact student learning achievement in addition to infrastructure. To put it another way, motivation is what drives someone's behavior; behavior is just motivation's most basic manifestation. One thing that propels someone to carry out a certain task is motivation. Sutrisno (2016) state that work motivation is what propels an individual to perform a specific task; so, motivation is frequently understood to be what influences an individual's behavior. In the meantime, work motivation, according to Sunyoto (2016), is a means of fostering an individual's work passion, so that they are willing to work by offering their skills and knowledge in the best possible way to accomplish organizational goals. In essence, a worker's motivation for their work develops from

within them, yet it can also originate from outside of them. Usman (2014) noted that an individual's intrinsic drive for their work can have a significant impact on their performance. This is feasible since an individual's hobbies and internal work drive are closely related. Thus, a person's performance is greatly influenced by their drive. When someone is interested in a job, they will fulfill their institution's requirements to the letter.

Behavior in the classroom is influenced by the motivation of the teacher. When it comes to fostering an environment that is favorable for teaching and learning, behavior is crucial. Since educators must mentor and serve as role models for their pupils, teachers in this situation have a significant influence on how their students behave. Sadirman (2013) stated that optimal motivation must also pay attention to the function of 1) encouraging humans to act, as a driver or motor that releases energy; and 2) determining the direction of action, namely towards the goals to be achieved. Motivation provides direction and activities that must be carried out by the formulation of its objectives; and 3) selecting actions, namely by setting aside actions that are not beneficial to these goals, so that with high motivation, teachers are sure to have good work achievements/performance.

This research was conducted at SMPN 01 Jayapura, East OKU Regency. Based on the results of observations and interviews with social studies teachers at SMPN 01 Jayapura, East OKU Regency, it is known that the KKM (Minimum Completion Criteria) for the Social Studies (Social Sciences) subject is 75. Consisting of 6 classes of level IX and class VIII level Class A-C totaling 160 students (100%). Of the total number of students in class IX and class VIII level Class A-C, it turns out that there are still students who have not reached the Minimum Completion Criteria (KKM) set by the school. Based on the information obtained, the results of the Final Semester Assessment (PAS) for the 2022/2023 academic year for the Social Studies subject, show that out of 6 classes totaling 160 students, only 28 students (17.50%) were able to achieve the KKM and 132 students (82, 50%) were categorized as still lacking.

Based on the above conditions, the researcher saw that there were still problems regarding learning achievement for social studies subjects, especially for students in grade IX class A-C and grade VIII class A-C at SMPN 1 Jayapura, East OKU Regency. If left unchecked, it would certainly be very detrimental to all parties, students, teachers, and schools because the objectives of the education process have not been achieved. Based on preliminary observations, the researcher concluded that several factors, including (1) a lack of creativity on the part of teachers when presenting social studies lessons; and (2) a lack of preparation for teachers, who are required to create lesson plans and teaching materials (e.g., modules or textbooks, LKS, dictation books, and textbooks) to assist them in carrying out teaching and learning activities in the classroom. (3) Whiteboards, rulers, maps, atlases, globes, seats, tables, LCD projectors, electrical outlets, fans, and other learning media infrastructure have not fulfilled the eligibility requirements. Moreover, SMPN 01

Jayapura lacks a social studies laboratory. This is consistent with the findings of the observations that the researchers made; several signs were also discovered, indicating that some teachers lacked motivation to fulfill their obligations. Regarding the aforementioned elements, Gagarin et al. (2012) claimed that infrastructure and facilities, particularly the acquisition of new infrastructure and facilities, can enhance teacher effectiveness in the classroom, raise the standard of education, and eventually result in the production of high-caliber human resources. Referring to the Standards for facilities and infrastructure developed by BSNP and specified by the Ministerial Regulation, educational facilities and infrastructure themselves are one of the supporters of educational success; however, they frequently become a barrier in the process of organizing education in schools (Djamarah et al., 2013). The obstacles faced include the provision of facilities that are not yet adequate or complete. The problem of facilities and infrastructure is very important to be handled more seriously because it greatly influences the smoothness of the learning process. Based on this, the author intends to conduct a study entitled *The Influence of Facilities and Infrastructure and Teacher's Work Motivation on Student's Learning Achievement at SMPN 01 Jayapura, East OKU Regency*.

B. Methods

This study was carried out in East OKU Regency's SMPN 01 Jayapura. The Explanatory Survey Method is a quantitative approach used in this study to examine the impact of several independent variables on the dependent variable. A proper statistical review will be used in the investigation of the proposed hypothesis. Sugiyono (2019) defines quantitative data as information presented as numbers or as quantitative data with a score. The total population under study, as defined by Nawawi (2012), includes people, things, animals, plants, symptoms, test results, and events that meet specific criteria for use as data sources in a study. However, population refers to the fact that every subject in the study region is used as a research topic (Darmadi, 2013). The population in this study were all students of SMPN 01 Jayapura, East OKU Regency, grade IX, and grade VIII levels, classes A-C, totaling 160 students. Arikunto (2019) states that a sample is a portion or representative of the population to be studied. The author took 100% of the population in grades IX and VIII, class A-C, which was 160 students. Based on the formula used, the number of samples in this study was 114, 28 rounded up to 114 students at SMPN 01 Jayapura, East OKUTur Regency. Data collection techniques, interviews, and observations:

1. Questionnaire

When regarded from the perspective of responding, questions can be classified into two categories: open and closed (Arikunto, 2013). Giving respondents the freedom to react in their own words is what is meant by an open questionnaire; on the other

hand, a closed questionnaire restricts respondents from selecting options based solely on the circumstances they encounter.

2. Observation

On the other hand, observation is a complicated process that is made up of different biological and psychological processes, including memory and observation (Sugiyono, 2011). Data from this study observation is utilized to support the first hypothesis. For an observation to provide the intended effects, care, and methodical execution are required.

3. Documentation

Documentation in this study is used to obtain additional information about facilities and infrastructure, Teacher Work Motivation, and learning achievement at SMPN 01 Jayapura OKU Timur.

C. Results and Discussion

1. Discussion of Descriptive Statistical Test Results

According to the analysis's findings, student learning achievement at SMPN 01 Jayapura, East OKU Regency, is influenced by both teacher work motivation and facilities and infrastructure. Facilities and infrastructure in the very good category are 25 or 21.94%, in the good category are 44 or 38.60%, in the sufficient category are 22 or 19.30%, and in the very poor category are 8 or 7.01%, according to the results of the descriptive statistical analysis. The analysis's findings show that infrastructure and amenities fall into the good category. The very good category is 6 or 5.26%, the good category is 46 or 40.35%, the pretty good category is 31 or 27.11%, the poor category is 20 or 17.54%, and the very poor category is 11 or 9.64%, according to the results of the descriptive statistical analysis of teacher job motivation. The analysis's findings show that teachers at SMPN 01 Jayapura in East OKU Regency have strong levels of work motivation. Then, 4 or 3.51% of students go into the very good category, 29 or 25.43% fall into the good category, 49 or 42.98% fall into the pretty good category, 26 or 22.82% fall into the less category, and 6 or 5.26% fall into the very less category. The results of the analysis indicate that student learning achievement is in the fairly good category. The results of the descriptive statistical test of the research variables, state that the Facilities and Infrastructure, Teacher Work Motivation and student achievement of SMPN 01 Jayapura, East OKU District are in the fairly good category.

2. Discussion of Hypothesis Test Results 1

Based on a simple regression test, the calculated t-value is $2.418 >$ from the t-table value of 1.658 where the calculated t-value is greater than the t table, then H_0 is rejected, so there is a significant influence between Facilities and Infrastructure on student achievement at SMPN 01 Jayapura, East OKU Regency. The results of this analysis state that the better the learning facilities and infrastructure, the better the student's learning achievement. Facilities and infrastructure affect student learning outcomes by improving the quality of learning according to Inayah et al.'s research from 2021, infrastructure and amenities have an impact on learning outcomes. According to research findings by Hermawan et al. (2022), infrastructure and amenities have an impact on the caliber of education. Next, the findings of a study by Suranto et al. (2022) indicated that enhancing the effectiveness of educational facilities and infrastructure management is one way to raise the standard of education. The planning, purchasing, using, inventorying, maintaining, and disposing of procedures are all included in the administration of educational buildings and infrastructure. This aims to help prepare and organize all the equipment needed for the implementation of the education process to help the smooth running of the teaching and learning process.

Research by Yulianti & Koten (2022), which claims that infrastructure has a favorable and large impact on learning achievement, also supports the findings of this study. One way to view a favorable influence is that learning achievement will rise with better infrastructure. It is possible to interpret a significant influence as follows: Magepanda State High School's learning achievement will rise significantly with improved infrastructure. Then, according to research Rosidih (2023), there is a relationship between student learning achievement and the availability of school amenities and infrastructure. The infrastructure and facilities available in schools have an impact on how well students learn.

The Nur Mujahiddah (2022) study results, which evaluated the infrastructure and facilities by distributing questionnaires to 106 students, showed that the group's average group score was fairly high, with a very good category. The study's total score was 9,584, with an average value of 90.42. A total score of 8,348 was acquired by 106 students who responded to the odd semester report card scores of the 2020–2021 academic year. An average value of 78 indicated a pretty high average group score, with a Good category. The study's findings demonstrated a favorable correlation between learning outcomes and facilities. This is indicated by the correlation coefficient obtained by the t count of 0.451 which is greater than the t-table at $\hat{\alpha} = 0.05$, namely 0.159 with an error rate of 5%. The relationship pattern between the two variables is stated by the regression test of the infrastructure variable against the learning outcome variable with a test result of 0.003 which is smaller than the significance level of 0.005, which means that the infrastructure variable influences the learning outcome variable.

3. Discussion of Hypothesis Test Results 2

Based on the significance test of the teacher's work motivation variable on student achievement at SMPN 01 Jayapura, East OKU Regency, the calculated t-value was $3.058 \geq$ the t-table value of 1.658 where the calculated t-value was greater than the t table, then H_{02} was rejected, so there was a significant influence between teacher work motivation on student achievement at SMPN 01 Jayapura, East OKU Regency. The results of this analysis state that the higher the teacher's motivation, the higher the student's learning achievement. The positive and significant influence of teacher work motivation on student learning achievement can be seen from the teacher's responsibility in carrying out tasks with clear targets, having a feeling of pleasure in working, always trying to meet their life needs, working with the hope of getting incentives and working with the hope of getting attention from friends and superiors. Motivation can be fostered through the arrangement of the physical environment, arrangement, work atmosphere, discipline, encouragement, effective awards, and the provision of various learning resources through the development of the Learning Resource Center. With the high motivation of the teachers, it is hoped that it will have a significant impact on improving student learning achievement, this is if the teachers are willing to devote all their thoughts and energy to helping students.

Based on research Nurmalina (2019), the t-table value is 2.052, indicating that the two variables' influence is deemed significant. Teacher work motivation is found to have a significant impact on student learning achievement, with a correlation coefficient of 0.702 and a calculated t-value = 3.694 at a significance level of $\alpha = 5\%$. There is a significant association between the two. Stated otherwise, there is a significant correlation between teachers' work motivation and students' learning accomplishment—that is, the greater the teacher's work motivation, the higher the student's learning achievement. This is evident from the fact that the work motivation component of the teacher contributes 49.3% to the learning achievement of the students, with other variables not included in this study accounting for the remaining 50.7%. Then backed by research by Amalda & Prasajo (2018), which claims that there is a 13.1% relationship between high school/MA student learning achievement and teacher job motivation in Mataram City.

4. Discussion of Hypothesis Test Results 3

At SMPN 01 Jayapura, East OKU Regency, there was a significant influence on student learning achievement from facilities and infrastructure as well as teacher work motivation. This was demonstrated by the calculated F from the Anova test, which came out at 24.697 with a significance level of $0.000 < \alpha$ probability value of 0.05, and the F-table, which agreed with a significance level of 0.05 (2.112) of 3.08. As a result, H_{03} was rejected. The magnitude of the influence of infrastructure, facilities, and teacher work motivation on student learning achievement at SMPN 01 Jayapura,

East OKU Regency together was 30.8%, and the remaining 69.2% was influenced by other factors not examined in this study, according to the R square value of 0.974, which indicates that the determination coefficient was 30.8%. Research by Muazza & Muspawi (2020), which indicates that learning facilities, teacher work discipline, and job motivation have an impact on student learning accomplishment, corroborates the findings of this study. Hypothesis 4 can be seen from the F-count-value of 27.214. The f-tabel value can be seen in the statistical table with a significance level of 0.05 with degrees of freedom (df1) $k-1$ or $4-1 = 3$, (df2) $n-k$ or $82-4 = 78$, the f-tabel value obtained is 2.49 so that $f\text{-count} > f\text{-tabel}$ which is $(27.314 > 2.49)$ then H_0 is rejected and accepts H_a .

Next, the Permana (2016) study reveals that the work motivation of instructors and infrastructure have a favorable and significant impact on the performance of Pharmacy Vocational School teachers in Majalengka Regency. This is demonstrated by the F count computation results, which come out to be 39.75 with a significance level of 0.000. Since H_0 is rejected since the significance value is less than 0.05, H_1 is approved. Teachers' performance has a favorable and significant impact on the learning achievement of pupils at Majalengka Regency's Pharmacy Vocational School. The t-count computation results, which come back at 12.827 with a significance level of 0.000, demonstrate this. Consequently, if the significance value is less than 0.05, H_0 is disproved, meaning H_1 is accepted.

D. Conclusion

Based on data analysis and hypothesis testing, the following conclusions can be drawn:

1. There is a significant influence between facilities and infrastructure on student achievement at SMPN 01 Jayapura, East OKU Regency based on the results of a simple regression test, the calculated t-value is $2.418 >$ from the t-table value of 1.658 where the calculated t-value is greater than the t-table, then H_{01} is rejected.
2. There is a significant influence between teacher work motivation on student achievement at SMPN 01 Jayapura, East OKU Regency based on the results of a simple regression test, the calculated t-value is $3.058 \geq$ the t-table value of 1.658 where the calculated t-value is greater than the t table, then H_{02} is rejected.
3. Based on the ANOVA test, the calculated F was obtained at 24.697 with a significance level of 0.000 $< \alpha$ probability value of 0.05 while the F-table corresponds to a significance level of 0.05 (2.112) of 3.08 so that the calculated $F > F\text{-table}$ ($24.697 > 3.08$) so that H_{03} is rejected so that there is a significant influence together between Facilities and Infrastructure and Teacher Work Motivation on Student Learning Achievement at SMPN 01 Jayapura, East OKU Regency together by 30.8% and the remaining 69.2% is influenced by other factors not examined in this study.

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References

- Amalda, N., & Prasojo, L. D. (2018). The Effect of Teacher Work Motivation, Teacher Work Discipline and Student Discipline on Student Learning Achievement. *Jurnal Akuntabilitas Manajemen Pendidikan*, 6(1), 11. <https://doi.org/10.21831/amp.v6i1.7515>
- Arikunto, S. (2013). *Research Procedures are a Practical Approach*. Rineka Cipta.
- Arikunto, S. (2019). *Research Procedure*. Rineka Cipta.
- Darmadi, H. (2013). *Social Education Research Methods*. Alfabeta.
- Djamarah, Bahri, S., & Zain, A. (2013). *Teaching and Learning Strategies*. Rineka Cipta.
- Gagarin, M. Y., Pallu, S., & Baharuddin, S. T. (2012). *The Effect of School Facilities and Infrastructure on Teacher Performance in Alor District, East Nusa Tenggara*. Jurusan Teknik Sipil Fakultas Teknik Universitas Hasanuddin.
- Hariani, M., Arifin, S., & Putra, A. R. (2019). The Influence of Organizational Climate, Work Experience and Work Motivation on Employee Work Commitment. *Management Research and Accounting Research Journal*, 3(2).
- Harso, M. (2012). The Influence of Principal Leadership and Teacher Performance on School Effectiveness in SMK Pematang District. *Educational Management*, 1(1).
- Hermawan, S., Roswita, dwianti, C., Biduri, S., Nugraheni, R., & Qonitah, I. (2022). Competence, Work Experience and Integrity on the performance of auditor: the role of professionalism. *Jurnal Reviu Akuntansi dan Keuangan*, 12(1).
- Inayah, C., Ahsani, E. L. F., Mastura, E., Niã€™mah, L. S., & Amalia, V. (2021). The Influence of Facilities and Infrastructure in Supporting Elementary School Students' Learning Achievement at the Indonesian School in The Hague. *Journal Program Studi PGMI*, 8(1). <https://doi.org/10.69896/modeling.v8i1.686>
- Muazza, & Muspawi. (2020). The Influence of Teacher Work Motivation, Teacher Work Discipline, and Facilities. *Jurnal Sains Sosio Humaniora*, 4(2011), 576–592.
- Nawawi, H. (2012). *Social Research Methods*. Universitas gajah mada.
- Ngeno, B., Mweru, M., & Mwoma, T. (2021). Availability of Physical Infrastructure in Implementation of the Competence-Based Curriculum in Public Primary Schools in Kericho County. *East African Journal of Education Studies*, 3(1), 130–146. <https://doi.org/10.37284/eajes.3.1.344>
- Nur Mujahiddah, A. (2022). The Influence of Facilities and Infrastructure on Student Learning Outcomes at Mafazah Bogor's Leading High School. *Al-Munadzomah*, 1(2), 81–90. <https://doi.org/10.51192/almunadzomah.v1i2.318>
- Nurmalina, N. (2019). The Influence of Teacher Work Motivation on Student Learning Achievement at State Middle School 2 Mesjid Raya. *Jecs (Journal of Economic Science)*, 5(1). <https://doi.org/10.33143/jecs.v5i1.862>
- Oktriany, W. H., Triastuti, R., & Prajoko, Y. S. (2015). *Strategy for Improving the*

- Quality of Education Using the Ishikawa Diagram at SMA Negeri 1 Suruh.*
- Permana, U. (2016). The Effect of Infrastructure and Teacher Work Motivation on Teachers' Teaching Performance and Its Impact on Students' Learning Achievements at Pharmacy Vocational Schools In Majalengka District. *Publicitas*, 10(2).
- Rosidih, A. (2023). The Influence of School Facilities and Infrastructure on the Learning Achievement of Grade VII Students at Ibnu Muay Integrated Middle School, Bekasi, 2019-2020 Academic Year. *Science and Education Journal*, 1(1). <https://doi.org/10.58290/snej.v1i1.97>
- Sadirman. (2013). *Teaching-Learning Interaction & Motivation*. Raja Grafindo Persada.
- Santosa, D. S. S., Sampaleng, D., & Amtiran, A. (2020). Improving Student Learning Achievement through Learning Models. *SIKIP: Jurnal Pendidikan Agama Kristen*, 1(1). <https://doi.org/10.52220/sikip.v1i1.34>
- Sitirahayu, S., & Purnomo, H. (2021). The Influence of Learning Facilities on Elementary School Students' Learning Achievement. *JiIP - Jurnal Ilmiah Ilmu Pendidikan*, 4(3), 164–168. <https://doi.org/10.54371/jiip.v4i3.242>
- Sugiyono. (2011). *Quantitative Research Methods and R and D*. Alfabeta.
- Sugiyono, S. (2019). *Quantitative, Qualitative, and R&D Research Methods*. In Bandung. Alfabeta.
- Sunyoto, D. (2016). *Human Resource Management*. PT Buku Seru.
- Suranto, D. I., Annur, S., & Alfiyanto, A. (2022). The Importance of Facilities and Infrastructure Management in Improving the Quality of education. *Jurnal Kiprah Pendidikan*, 1(2). <https://doi.org/10.33578/kpd.v1i2.26>
- Sutrisno, E. (2016). *Human Resource Management (Cetakan K)*. Kencana Prenada Media Group.
- Usman, H. (2014). *Management (Theory, Practice and Research in Education)*. Bumi Aksara Jakarta, 464.
- Widodo, S. A. (2015). The Effectiveness of Team Accelerated Instruction on Problem Solving Ability and Mathematics Learning Achievement of Grade VIII Students. *Jurnal Matematika Kreatif-Inovatif*, 6(1). <https://doi.org/10.15294/kreano.v6i2.4388>
- Yulianti, M., & Koten, F. B. I. (2022). The Influence of Learning Motivation, Teacher Pedagogical Competence and Facilities and Infrastructure on the Learning Achievement of Grade XI Students at Magepanda State High School. *Jurnal Pendidikan Dan Konseling*, 4(6). <https://doi.org/10.31004/jpdk.v4i6.9364>