The Effect of Learning Infrastructure and Teacher Creativity on Student Motivation at SMP Terang Nusantara Bandung

Mario Richardo Octaviano[1], Fitria Salehati Samal[2], Mufti Muhammad Hamzah[3]
Educational Administration
Universitas Pendidikan Indonesia
Bandung, Indonesia
marioadpend@upi.edu, edufitriasalehatisamal023@upi.edu, muftimuhammad05@upi.edu

Abstract—The aim of this article was to determine the profile and relationship between infrastructure, teacher creativity, and student learning motivation at SMP Terang Nusantara Bandung. This research used a quantitative approach with multiple linear regression analyses, correlation analyses, and descriptive methods. The sample was taken using stratified random sampling consisting of 15 students in the VII grade, 21 students in the VIII grade, and 12 students in the IX grade. This research instrument used a Likert scale questionnaire with details of 23 statements about infrastructure, 17 statements about teacher creativity, and 17 statements about student learning motivation. The results of this research showed that the profile of infrastructure was 70%, teacher creativity was 77%, and learning motivation was 70%; all three were categorized as high. There was an influence of infrastructure on student learning motivation, with an r value of 0.663 (strong). There was no significant influence of teacher creativity on learning motivation, with an r value of 0.481 (fair). Simultaneously, infrastructure and teacher creativity had a significant effect on student learning motivation at Terang Nusantara Middle School, with a strong degree of relationship at R 0.665. The variables of infrastructure and teacher creativity had an influence of 44%, with the remaining 56% being influenced by other variables not included in the research.

Keywords—Infrastructure; Teacher creativity; Learning motivation

I. INTRODUCTION

The Effect of Learning Infrastructure and Teacher Creativity on Student Motivation at SMP Terang Nusantara Bandung. Education has a very important role in shaping a competent and competitive generation (Murtafiah, 2022). The quality of education is influenced by several factors, including learning facilities and teacher creativity (Yusuf et al., 2023). (Asriadi et al., 2021) (Sibuea et al., 2023). Learning facilities involve physical, technological, and environmental aspects that support the learning process, while teacher creativity includes their ability to provide innovative and interesting learning.

Learning motivation is a crucial aspect in this context, as it has a direct influence on student learning outcomes (Budiyani et al., 2021). Learning motivation is not only influenced by internal student factors, but also by external factors such as learning facilities and teacher creativity in presenting teaching materials (Emda, 2018).

Adequate learning facilities can create a comfortable environment and can increase student learning motivation (Arsana, 2019). Good physical facilities, access to modern technology, and appropriate classrooms can increase student engagement in the learning process. The availability of adequate facilities and infrastructure can support the implementation of learning strategies, because in learning strategies there are actions / actions which include the use of methods and the utilization of various resources/strengths in a lesson (Haudi, 2021).

On the other hand, teacher creativity in developing interesting learning strategies can stimulate students' interest and enthusiasm for learning (Rasam & Sari, 2018). Although many studies have highlighted the role of learning facilities and teacher creativity in education, there are still few studies that specifically investigate the influence of these two factors on student learning motivation.

Therefore, the purpose of this study is to identify the relationship between the quality of learning facilities, teacher creativity and student learning motivation. With a deeper understanding of learning opportunities, teacher creativity, and student learning motivation, it is expected that this study can make a significant contribution to the development of more effective teaching strategies.

The results of this study are expected to serve as a foundation for schools, teachers and other stakeholders to optimize learning facilities and infrastructure, support the development of teacher creativity, increase student learning motivation, and ultimately improve the overall quality of education.

II. LITERATURE REVIEW

A. Infrastructure Facilities

Facilities refer to tools and equipment that are used directly to support the educational process, while infrastructure includes facilities that directly support the implementation of education or learning (Mulyasa, 2012). Facilities and infrastructure are important in the continuity of the teaching and learning process in the classroom. According to Law No. 20 of 2003 concerning SISDIKNAS article 45 paragraph 1 states that “every formal and non-formal education unit provides facilities and infrastructure that meet educational needs in accordance with the growth and development of the physical potential, intellectual, social, and obligations of students”.

Learning will achieve full effectiveness if supported by optimal facilities and infrastructure. (Inayah et al., 2021). Facilities and infrastructure are one of the educational assets that need and are very important to be managed properly, and are an integral part of education management that cannot be

separated (Megasari, 2020). Types of school infrastructure facilities

When viewed from its function or role in the implementation of the learning process, facilities can be divided into teaching tools and teaching media. Meanwhile, infrastructure can be defined as school buildings (Suryobroto, 2004). This learning infrastructure can be further described as school buildings, learning spaces, and library facilities (Dimyati & Mudjiono, 2009).

B. Teaching Tools

Teaching tools are devices that are used directly in learning activities. Common examples of teaching tools in the school environment include blackboards, markers, chalk, and so on (Sara & Mahawati, 2023). Inadequate completeness of teaching tools can hinder the conduciveness of the teaching and learning process (Niehlah et al., 2023).

C. Classroom

Classrooms are considered to meet standards if they meet components such as cleanliness, tidiness, without disturbing odors, adequate lighting, and not too dark which can interfere with eye comfort (Susanti, 2019). Classroom conditions must meet the criteria for proper seating arrangements, ventilation and adequate lighting arrangements (Masrini & Istikomah, 2020).

D. School Building

School buildings should meet the requirements of conditions that are secluded from noise so that students can fully focus on the learning process, while paying attention to comfort for all students. (Dalyono, 2009).

E. Library

One of the important facilities in the implementation of learning is the library. Library management is expected to provide facilities for students to complete tasks in the learning process (Huda, 2020). The library is also expected to be able to integrate knowledge for students, not only limited to separate subjects.

F. Teaching Media

Teaching media is a tool that can function as an intermediary in the implementation of the teaching and learning process. The utilization of teaching media can be done effectively in order to create more structured learning (Sitepu, 2022).

G. Teacher Creativity

The success of a lesson is inseparable from the creativity of a teacher in delivering the lesson. Talajan (2012) explains that teacher creativity can be divided into two components, namely:

Creativity in Classroom Management

Managing the classroom is the teacher's activity in managing classroom dynamics, organizing existing resources and planning activities carried out in the classroom to be directed in a good learning process. In this case, classroom management, teacher creativity in classroom management can be directed to help students in the classroom to learn collaboratively and cooperatively and create an academic environment that is conducive to the learning process.

Creativity in utilizing learning media

Learning media are tools or objects that can support the learning process in the classroom. The functions of learning media are: (1) Helping students understand the abstract concepts being taught. (2) Increase students' motivation in learning, (3) Reduce the occurrence of misunderstanding, and (4) Motivate teachers to develop knowledge.

In this context, teachers in learning media are directed to reduce things that are too abstract in learning and help students integrate learning materials into real situations. Talajan (2012) also explained that teacher creativity in learning is part of a system that is inseparable from educators and education. The role of teacher creativity is not just to help one aspect of human beings, but includes other aspects, namely cognitive, psychomotor and affective.

H. Learning Motivation

The definition of learning motivation can be summarized as an internal drive that encourages a person to learn in order to achieve the goals of knowledge, skills, and experience. According to Hamalik (2003), motivation is a change in energy within a person that includes feelings and reactions to achieve goals. Iskandar (2012) explains that learning motivation is an internal force that encourages individuals to be active in learning activities to increase knowledge, skills, and experience.

Forms of learning motivation, according to Sardiman (2010), are divided into two, namely intrinsic and extrinsic motivation. Intrinsic motivation refers to the internal drive that arises from within the individual itself without the need for external stimuli. This means that there is motivation from within the individual to perform an action. Extrinsic motivation is a drive that is active and functions because of an external stimulus or trigger. For example, someone studies material because they know there is an exam tomorrow morning in the hope of getting a good grade, or to get a prize as an incentive.

III. RESEARCH METHOD

This research design is a quantitative study that uses a questionnaire as a data collection tool, where respondents answer structured statements. The analytical methods used in this study include multiple linear regression, correlation analysis and descriptive methods. Multiple linear regression is used as a tool to predict the effect of two or more independent variables on the dependent variable, with the aim of proving the existence or absence of a functional relationship between two or more independent variables and one dependent variable (Sugiyono, 2010). This research instrument uses 3 questionnaires with a Likert scale that requires alternative answers: (1) strongly disagree / never, (2) disagree / rarely, (3) moderately agree / sometimes, (4) agree / often, (5) strongly agree / always. The dependent variable X1 is school infrastructure with 23 statements based on indicators from (Suryobroto, 2004) and (Dimyati & Mudjiono, 2009). Variable X2 is teacher creativity with 17 statement instruments based on indicators from (Tajalan,

2012). And Variable Y is student learning motivation with 17 statement instruments based on indicators from (Djamarah, 200). These three instruments have been tested for validity and reliability so that they can be used in research. This research design is illustrated as **Figure 1**.

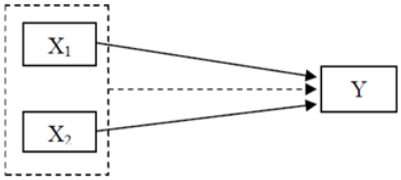

Figure 1. Research design

This research was conducted at Terang Nusantara Junior High School located in Bandung. The population in this study were 29 students of class VII, 40 students of class VIII and 20 students of class IX. By using stratified random sampling technique, the sample of this study was divided into 3 strata consisting of 15 students of class VII, 21 students of class VIII and 12 students of class IX. Data were collected through the distribution of questionnaires conducted on October 31 and November 1, 2023. The questionnaire was distributed in the form of a Google Form application, and students could access and fill it in directly through their respective devices. Data processing was assisted by Microsoft excel 2021 and IBM SPSS statistics 25. For the calculation of descriptive analysis of the profile of each variable, the following formula was used:

$$Percentage = \frac{Total\ student\ answer\ score}{Ideal\ score} \times 100\%$$

Likert scale percentage criteria:

Table 1. Likert scale score criteria

Score	Category
0%-20%	Very low
21%-40%	Low
41%-60%	Medium
61%-80%	High
81%-100%	Very high

(Riduwan, 2007)

IV. RESULTS AND DISCUSSION

A. *Description of Questionnaire Results for Each Variable*

In the first stage, the results of distributing questionnaires on each research variable were analyzed. This description is intended to see the profile of infrastructure facilities, teacher creativity and student learning motivation at SMP Terang Nusantara. These results can be used as material for school evaluation of teaching and learning activities. After being distributed to 48 research samples, the results of the variable profile description can be seen in **Table 2**.

Table 2. Profile Description of Each Variable

Variable	Score Total Student Answers	Ideal score	Percentage	Criteria
Infrastructure	3880	5530	70%	High
Teacher Creativity	3134	4080	77%	High
Student Learning Motivation	2878	4080	70%	High

In **Table 2**, it can be seen that the teacher creativity variable has the highest percentage with 77% compared to the other two variables, namely infrastructure facilities and student learning motivation with 70%. However, all three are equally classified as high criteria. This means that the profile of infrastructure facilities, teacher creativity, and student learning motivation at SMP Terang Nusantara has a high level which can be a school advantage and can prove a good learning environment climate for students. In line with that, schools have been categorized as effective schools where educational facilities and infrastructure are adequate and can have a role in achieving educational goals (Pusvitasari & Sukur, 2020). High teacher creativity can mean teacher expertise in mastering learning media so that it can have a positive impact on student interest in learning (Rasam & Sari, 2018). In addition, students who have high learning motivation are able to strengthen their learning goals, increase their enthusiasm for learning, and achieve optimal learning outcomes (Husaeni et al., 2023).

B. *Effect of Infrastructure Facilities on Learning Motivation*

Correlation analysis is used to see the effect of infrastructure variables on learning motivation partially. The results of the analysis can be seen in **Table 3**.

Table 3.Effect of Infrastructure Facilities on Learning Motivation

	Motivasi Belajar	
	Sig.	Pearson Correlation
Sarana Prasarana	0,00	0,663

Based on Table 3, infrastructure facilities have a Sig. 0.000 ($nilai\ Sig. < 0.05$), it can be said that there is a significant effect of learning infrastructure facilities partially on students' learning motivation at SMP Terang Nusantara with a correlation value of 0.663, which means it has a strong level of relationship. Each indicator of infrastructure consisting of classrooms, school buildings, libraries, teaching media, teaching tools affects the intrinsic and extrinsic motivation of students at school (Suryobroto, 2004) (Dimyati & Mudjiono, 2009) (Djamarah, 2000).With the criteria for a high profile of infrastructure facilities in Table 2 and the correlation value in Table 3, students can use the facilities provided by the school as an ideal learning tool so as to increase motivation in the learning process (Muhdiyati & Septiyadi, 2023). School facilities or infrastructure can affect students' learning motivation because in the learning process, teachers use teaching aids and other teaching materials that can increase students' interest in learning, so the existence of teaching aids and other learning facilities allows teachers to

teach optimally so that students can understand the material presented well (Yusuf et al., 2023).

C. The Effect of Teacher Creativity on Learning Motivation

Correlation analysis is used to see the effect of teacher creativity variables on learning motivation partially. The results of the analysis can be seen in **Table 4**.

Table 4. Effect of Teacher Creativity on Learning Motivation

	Motivasi Belajar	
	Sig.	Pearson Correlation
Sarana Prasarana	0,763	0,481

Based on **Table 4**, teacher creativity has a Sig. 0.763 (*Sig. value* > 0.05), it can be said that there is no significant effect of learning infrastructure partially on students' learning motivation at Terang Nusantara Junior High School with a correlation value of 0.481, which means it has a moderate level of relationship. This shows that when teacher creativity increases, it does not always have an impact on increasing student learning motivation, although several studies have shown that creativity in learning makes a significant contribution to learning motivation (Asriadi et al., 2021).

Although the teacher creativity profile is the highest among the three, this variable does not fully influence student learning motivation in this study. In this study, students' learning motivation is more influenced by intrinsic factors. These intrinsic factors can be caused by students' needs, goals, and expectations (Rubiana & Dadi, 2020). Other intrinsic factors can be influenced by students' ability to learn (Emda, 2018).

In this study, extrinsic factors such as school infrastructure have a greater influence on students' motivation than teachers' ability or creativity in learning. This study has a difference in findings with previous studies which state that a teacher's creativity has an influence on students' motivation to learn (Hasanah et al., 2023) (sibuea et al., 2020).

D. Simultaneous Effect of Infrastructure Facilities and Teacher Creativity on Learning Motivation

Multiple linear regression analysis was conducted to see the effect of variable infrastructure and teacher creativity on student learning motivation simultaneously. The results of the analysis are presented in **Table 5**.

Table 5. Effect of Infrastructure Facilities and Teacher Creativity on Learning Motivation

Model Summary		
R	**R Square**	**Sig. F Change**
0,664	0,441	0,000

Based on the Sig. F change value of 0.000 (*Sig. value* < 0.05), it can be said that the results of infrastructure facilities and teacher creativity have a significant effect on student learning motivation simultaneously in SMP Terang Nusantara. The R value in this study is 0.664 which means that infrastructure facilities and teacher creativity have a strong relationship with student learning motivation with an R value of 0.664. The last result of R square value is 0.441 which means that the effect of infrastructure and teacher creativity variables simultaneously on student learning motivation is 44% while the remaining 56% is influenced by other variables not included in this study. Although partially the teacher creativity variable does not have a significant relationship with student learning motivation, when the variable is simultaneously combined with school infrastructure facilities, teacher creativity can contribute a simultaneous current with school infrastructure of 44% to student learning motivation. Other factors that can influence student learning motivation are physical functioning, intelligence, time management, study habits, teacher role, parents, emotional and health aspects, and influence from friends (Rohman & Karimah. 2018).

V. CONCLUSIONS

The teacher creativity profile at SMP Terang Nusantara has the highest percentage, reaching 77%, while infrastructure and student motivation to learn both have 70%. All three indicators fall into the high criteria category, highlighting the school's strength in fostering a positive learning environment. Infrastructure facilities, such as classrooms, school buildings, libraries, teaching media, and tools, have a significant partial effect on student motivation, with a strong correlation value of 0.663. This indicates that students benefit from the available facilities as ideal learning tools to boost their motivation. However, the partial effect of learning infrastructure on motivation shows a moderate relationship, with a correlation value of 0.481. On the other hand, the combined effect of infrastructure facilities and teacher creativity on student motivation is significant, with a strong correlation of R 0.665. Together, these factors account for 44% of the variation in student learning motivation, while the remaining 56% is influenced by other variables outside the scope of this study. This underscores the importance of integrating infrastructure and teacher creativity to maintain a high-quality learning environment.

REFERENCES

[1] Arsana, I. K. S. (2019). Pengaruh keterampilan mengajar guru dan fasilitas belajar terhadap motivasi belajar siswa. *Sosial Horizon: Jurnal Pendidikan Sosial*, *6*(2), 269-282.

[2] Emda, A. (2018). Kedudukan motivasi belajar siswa dalam pembelajaran. Lantanida journal, 5(2), 172-182.

[3] Feriady, M., & Harnanik, H. (2012). Pengaruh persepsi siwa tentang keterampilan mengajar guru dan fasilitas belajar siswa terhadap minat belajar IPS kelas VIII SMP N 3 Purbalingga. Economic Education Analysis Journal, 1(2).

[4] Hasanah, N., Faslah, R., & Sholikhah, S. (2023). Pengaruh Kreativitas Guru dan Self Efficacy Terhadap Motivasi Belajar Siswa SMK Negeri 12 Jakarta Pada Masa Pandemi Covid-19. JURNAL SYNTAX IMPERATIF: Jurnal Ilmu Sosial dan Pendidikan, 4(1), 1-9.

[5] Huda, I. C. (2020). Peranan Perpustakaan Sekolah Terhadap Hasil Belajar Siswa Sekolah Dasar. Edukatif: Jurnal Ilmu Pendidikan, 2(1), 38-48.

[6] Inayah, C., Ahsani, E. L. F., Mastura, E., Ni'mah, L. S., & Amalia, V. (2021). Pengaruh Sarana Prasarana Dalam Menunjang Prestasi Belajar Siswa SD Di Sekolah Indonesia Den Haag. MODELING: Jurnal Program Studi PGMI, 8(1), 52-68.

[7] Khururiyah, N., Achmadi, A., & Syamsuri, S. (2022). Pengaruh Kreativitas Guru Terhadap Motivasi Belajar Mata Pelajaran Pendidikan Pancasila dan Kewarganegaraan. LITERASI (Jurnal Ilmu Pendidikan), 13(2), 150-161.

[8] Masriani, M., & Istikomah, I. (2020). Urgensi Manajemen Kelas pada Pendidikan Dasar. Mitra PGMI: Jurnal Kependidikan MI, 6(2), 158-172.

[9] Megasari, R. (2020). Peningkatan pengelolaan sarana dan prasarana pendidikan untuk meningkatkan kualitas pembelajaran di SMPN 5 Bukittinggi. Jurnal Bahana Manajemen Pendidikan, 2(1), 636-648.

[10] Moonti, U., & Bahsoan, A. (2021). Pengaruh keterampilan menjelaskan guru terhadap hasil belajar siswa. Jambura Economic Education Journal, 3(1), 1-7.

[11] Muhdiyati, I., & Septiadi, R. (2023). Daya Dukung Sarana dan Prasarana Sekolah terhadap Motivasi Belajar Siswa. Jurnal Anak Bangsa, 2(1), 158-172.

[12] Niehlah, A. R., Jufriansah, A., Khusnani, A., Fauzi, I. M., & Sari, T. P. (2023). Penguatan Pendidikan sebagai Upaya untuk Meningkatkan Kemampuan Jasmani bagi Anak Pekerja Migran di Sanggar Bimbingan Malaysia. Jurnal Ilmiah Kampus Mengajar, 105-122.

[13] Pusvitasari, R., & Sukur, M. (2020). Manajemen Keuangan Sekolah Dalam Pemenuhan Sarana Prasarana Pendidikan (Studi kasus di SD Muhammadiyah 1 Krian, Sidoarjo). Al-Tanzim: Jurnal Manajemen Pendidikan Islam, 4(1), 94-106.

[14] Rahmayanti, A. (2019). Pengaruh Fasilitas Belajar dan Keterampilan Mengajar Guru terhadap Hasil Belajar Komputer Akuntansi melalui Motivasi Belajar sebagai Variabel Mediasi pada Siswa Kelas XI Prodi Akuntansi SMK Negeri 1 Kebumen Tahun Ajaran 2017/2018. LIABILITIES (JURNAL PENDIDIKAN AKUNTANSI), 2(1), 1-23.

[15] Rasam, F., & Sari, A. I. C. (2018). Peran kreativitas guru dalam penggunaan media belajar dan minat belajar dalam meningkatkan prestasi belajar peserta didik SMK di Jakarta Selatan. Research and Development Journal of Education, 5(1), 95-113.

[16] Rohman, A. A., & Karimah, S. (2018). Faktor-faktor yang mempengaruhi rendahnya motivasi belajar siswa kelas XI. Jurnal At-Taqaddum, 10(1), 95-108.

[17] Rubiana, E. P., & Dadi, D. (2020). Faktor-Faktor yang Mempengaruhi Motivasi Belajar IPA Siswa SMP Berbasis Pesantren. Bioed: Jurnal Pendidikan Biologi, 8(2), 12-17.

[18] Sara, S. Y., & Mahawati, E. (2023). Perbedaan Kapasitas Vital Paru Guru Smp Berdasarkan Penggunaan Kapur Tulis Dan Spidol (Studi Kasus Di Kabupaten Kendal). SAINTEKES: Jurnal Sains, Teknologi Dan Kesehatan, 2(1), 33-40

[19] Sibuea, S. A., Ramadhani, A., Aprilia, D., Pohan, N. A., & Amiruddin, A. (2023). Kreativitas Guru dalam Meningkatkan Motivasi Belajar Siswa pada Mata Pelajaran PKN. Journal on Education, 5(2), 2123-2129.

[20] Utari, R. A., & Widodo, J. (2018). Pengaruh kepemimpinan instruksional guru dan fasilitas kelas terhadap prestasi belajar siswa melalui motivasi belajar. Economic Education Analysis Journal, 7(3), 1040-1055.

[21] Yusuf, N. I., Karma, I. N., & Istiningsih, S. (2023). Pengaruh Sarana dan Prasarana Belajar Sekolah Terhadap Motivasi Belajar Siswa SDN 7 Ampenan Kota Mataram. Konstruktivisme: Jurnal Pendidikan dan Pembelajaran, 15(1), 56-64.

[22] Yusuf, N. (2023). Pengaruh Keterampilan Mengajar Guru Dan Fasilitas Belajar Terhadap Motivasi Belajar Siswa Di *Sma Negeri 2 Toraja Utara* (Doctoral dissertation, Universitas Komputer Indonesia).