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THE EFFECT OF LEARNING FACILITIES ON STUDENT LEARNING OUTCOMES IN SCIENCE EDUCATION

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ABSTRACT

This study aims to determine the effect of learning facilities on student learning outcomes in Natural Sciences (IPA) in grade V at MI Khoriyatussibiyan Gedongombo Semanding Tuban in the 2023/2024 academic year. This study employs a quantitative approach using an associative method. The research subjects are all 16 students in the fifth grade. Data were collected through a learning facilities questionnaire and documentation of students' daily test scores, then analyzed using validity, reliability, normality, linearity, correlation, and determination coefficient tests with the assistance of SPSS 21. The results of the study indicate that the learning facilities at MI Khoriyatussibiyan are in the adequate category, with some facilities such as the library and science laboratory not yet optimally available. Student learning outcomes show that 81% have achieved the Minimum Competency Criteria (KKM), while 19% have not. Pearson's correlation test showed no significant relationship between learning facilities and student learning outcomes with a significance value of 0.400 (> 0.05). The coefficient of determination (R^2) value of 0.051 indicates that learning facilities only contribute 5.1% to learning outcomes, while 94.9% is influenced by other factors. Thus, it can be concluded that learning facilities do not significantly affect student learning outcomes in science learning at MI Khoriyatussibiyan. This shows the importance of paying attention to other factors such as learning methods, student motivation, and environmental support in efforts to improve learning outcomes.

Keywords: *Learning Facilities, Learning Outcomes, Natural Sciences, Madrasah Ibtidaiyah*

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INTRODUCTION

Basic education plays a strategic role in shaping the initial foundation of knowledge, skills, and character of students. Madrasah Ibtidaiyah (MI), as an Islamic-based primary education institution, also plays a role in creating a quality and meaningful learning process. One indicator of learning success is student learning outcomes, which reflect how well learning objectives have been achieved. However, learning outcomes are influenced by various factors, one of which is the availability of adequate learning facilities (Mauliddiyah & Wulandari, 2022; Stevani & Marwan, 2021).

In Science (IPA) learning, learning facilities play a vital role because Science material requires understanding based on experiments, observations, and hands-on practice (Sinaga, 2021). Without proper support from facilities and infrastructure such as teaching aids, interactive learning media, and representative learning spaces, the Science learning process tends to become theoretical and boring, thereby reducing students' interest and understanding (Yani & Hasibuan, 2022).

This situation is evident at MI Khoiriyatussibiyan, where 40% of students achieved science learning outcomes below the Minimum Competency Criteria (KKM). This fact is a serious concern, as it indicates that nearly half of the students have not yet achieved the expected competencies. The limited learning facilities at this madrasah are suspected to be one of the main factors hindering the optimization of science learning. According to Bloom's theory (1956), learning outcomes encompass three main domains: cognitive, affective, and psychomotor, all of which are greatly influenced by environmental conditions and learning resources. Therefore, it is important to conduct empirical research to determine the extent to which learning facilities influence students' learning outcomes in science education (Gultom et al., 2024; Sojanah et al., 2021; Sudiartini, 2024). This study aims to analyze the influence of learning facilities on student learning outcomes in science at MI Khoiriyatussibiyan. The findings of this study are expected to serve as a basis for consideration by school administrators, teachers, and education policymakers in designing strategies to improve the quality of learning through the provision and utilization of more optimal learning facilities.

METHODS

This study uses a quantitative approach with an associative method to determine the relationship and influence of learning facilities on student learning outcomes in science education. The study was conducted in the fifth grade of MI Khoiriyatussibiyan during the even semester of the current academic year. The subjects of this study were all 16 fifth-grade students. Due to the relatively small population size, this study used a saturated sampling technique, whereby the entire population was used as the sample.

Data collection was conducted using two main techniques, namely questionnaires and documentation. Questionnaires were used to measure students' perceptions of the available learning facilities, covering aspects such as the availability of teaching aids, classroom comfort, learning media, and other supporting facilities. The questionnaire was designed using a Likert scale with four answer options. Meanwhile, documentation was used to obtain data on student learning outcomes in the form of daily test scores or science subject report card scores, which were then analyzed based on achievement of the Minimum Competency Criteria (KKM). The data obtained were analyzed using simple linear regression statistical techniques to determine the extent of the influence of learning facilities on student learning outcomes. Before regression analysis was conducted, the data were first tested using a normality test as a prerequisite for parametric statistical analysis to ensure that the data were normally distributed and suitable for further analysis.

RESULT AND DISCUSSION

Research result

This study aims to determine the effect of learning facilities on student learning outcomes in science subjects in grade V at MI Khoriyatussibiyan Gedongombo Semanding Tuban in the 2023/2024 academic year. Data collection was conducted through a learning facilities questionnaire, documentation of students' daily test scores, and data analysis using normality, linearity, correlation, and determination coefficient tests with the assistance of SPSS version 21.

Description of Learning Facilities Data

Data obtained from the questionnaire showed that the highest learning facility score was 56 and the lowest was 36, with a total score of 746. Out of 16 respondents, 9 students (56%) categorized learning facilities as "adequate," with an average score of 42. Meanwhile, 7 students (44%) rated learning facilities as "insufficient," with an average score of 50.4. Based on this, learning facilities at MI Khoriyatussibiyan are generally considered adequate, although observations revealed shortcomings such as the absence of a library and a science laboratory (LAP), which should be available according to basic education facility standards.

Description of Learning Outcomes Data

Learning outcomes were obtained from daily science tests on the water cycle. Out of 16 students, 4 students (25%) achieved excellent grades with an average of 97, 7 students (44%) achieved good grades with an average of 88.1, and 5 students (31%) achieved adequate grades with an average of 78.8. Based on the school's minimum competency standard (KKM) of 80, 13 students (81%) met or exceeded the KKM, while 3 students (19%) were below the KKM. This indicates that, overall, student learning outcomes are satisfactory, but some students still require additional attention.

Validity and Reliability Testing of the Questionnaire

The learning facilities questionnaire consists of 20 items. Based on the validity test, it was found that 15 items were valid and 5 items were invalid, so only 15 items were used in the subsequent analysis. The reliability test results with Cronbach's Alpha of 0.748 indicate that the questionnaire has good reliability, as it is above the minimum threshold of 0.7. This means the questionnaire instrument is suitable for measuring students' perceptions of learning facilities.

Normality Test

The normality test was conducted using the Shapiro-Wilk test because the sample size was less than 50. The results showed a significance value of 0.271 (> 0.05), indicating that the data were normally distributed. Thus, the data met the prerequisites for parametric statistical analysis.

Linearity Test

The results of the linearity test showed a significance value of 0.699 (> 0.05) for deviation from linearity, indicating a linear relationship between learning facilities and learning

outcomes. This means that the simple linear regression model is suitable for hypothesis testing.

Pearson Correlation Test (Product Moment)
The results of the Pearson correlation test between learning facilities and student learning outcomes show a correlation value of 0.226 with a significance of 0.400. Since the significance value is greater than 0.05, there is no significant correlation between learning facilities and student learning outcomes. Therefore, the null hypothesis (H_0) is accepted, and the alternative hypothesis (H_1) is rejected.

Coefficient of Determination Test (R^2)
From the results of the simple regression analysis, an R Square value of 0.051 was obtained. This means that learning facilities only contribute 5.1% to student learning outcomes, while 94.9% of learning outcomes are influenced by other factors not examined in this study, such as learning motivation, teaching methods, students' psychological conditions, and family environment.

Discussion Results
The results of the study indicate that, in general, the learning facilities at MI Khoriyatussibiyan are adequate, although there are still deficiencies in important facilities such as a library and a science laboratory. This finding is consistent with the researcher's field observations and the opinions of Masita and Umar (Masita et al., 2024; Umar et al., 2023), who state that learning facilities must meet the minimum standards as stipulated in Permendiknas Number 24 of 2007. Failure to meet these standards can affect the comfort and effectiveness of the learning process for students.

Although most students have achieved the minimum passing grade, statistical test results show no significant relationship between learning facilities and student learning outcomes. This means that the presence of learning facilities alone is insufficient to guarantee improved student learning outcomes. This finding is supported by the research results of Makaliwe and Yuhana (Makaliwe & Lempas, 2023; Yuhana et al., 2020), which show that although learning facilities have an influence, there are also other dominant factors in shaping students' academic achievement.

Additionally, internal factors such as students' interest, attention, and intellectual ability, as well as external factors such as teaching methods, the role of teachers, and parental support, also play important roles. Learning outcomes reflect behavioral changes encompassing cognitive, affective, and psychomotor aspects influenced by various learning dynamics (Larasati et al., 2021; Peter & Ginting, 2025).

Thus, although learning facilities are an important component in supporting the learning process, the results of this study indicate that student learning success does not depend solely on this aspect. More comprehensive and collaborative interventions from teachers, students, parents, and the educational environment in general need to be developed to encourage more optimal learning outcomes.

CONCLUSIONS

Based on the results of data analysis and discussion, the following conclusions can be drawn:

1. The learning facilities at MI Khoriyatussibiyan are generally adequate, based on the results of questionnaires and observations. Most students consider the learning facilities to be adequate for supporting the learning process, but there are still some shortcomings, such as the lack of an ideal library and science laboratory.
2. Student learning outcomes in science education indicate that the majority of students have achieved scores above the minimum competency standard (KKM), with 81% of students scoring ≥80. However, 19% of students still scored below the KKM, indicating the need for improvements in aspects supporting the learning process.
3. The results of the Pearson correlation test show that there is no significant relationship between learning facilities and student learning outcomes, with a significance value of 0.400 (> 0.05). This means that statistically, learning facilities do not have a significant influence on student learning outcomes in this study.
4. The coefficient of determination (R^2) value of 0.051 indicates that learning facilities only contribute 5.1% to learning outcomes, while the remaining 94.9% is influenced by other factors not examined in this study, such as learning motivation, academic ability, teaching methods, and family support.

Overall, although learning facilities are an important factor in supporting the learning process, in the context of this study, their influence on student learning outcomes is not significant. Therefore, improving the quality of learning does not only depend on facilities and infrastructure but also requires attention to the pedagogical, psychological, and social aspects of students as a whole.

REFERENCES

Alwaan, A. Z., & T, N. A. (2024). Dakwah Strategy in The Modern Era. *INJIES: Journal of Islamic Education Studies*, *1*(1), 28–34. Retrieved from https://injies.unimika.ac.id/index.php/injies/article/view/4

Aziz, M., 'Arif, M., Alwi, M. F., & Nugraha, M. N. (2024). Improving The Quality of Education Through Optimizing the Educational Administration System at The An-Nur Islamic Education Foundation. *INJIES: Journal of Islamic Education Studies*, *1*(1), 5–15. Retrieved from https://injies.unimika.ac.id/index.php/injies/article/view/2

Abiyusuf, I., Hafizi, M., Pakhrurrozi, P., Saputra, W., & Hermanto, E. (2024). Critical Analysis of The Rejection of Richard Bell's Thoughts on The Translation of The Qur'an in The Context of Orientalism. *INJIES: Journal of Islamic Education Studies*, *1*(2), 48–60. https://doi.org/10.34125/injies.v1i2.6

Amir, A., Afnita, A., Zuve, F. O., & Erlianti, G. (2024). Education and Application of Digital Media in Creation and Documentation Artery Based Service Letter. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(1), 36–42. Retrieved from https://jerit.unimika.ac.id/index.php/jerit/article/view/5

Anwar, C., Septiani, D., & Riva'i, F. A. (2024). Implementation Of Curriculum Management Of Tahfidz Al-Qur'an at Al-Qur'an Islamiyah Bandung Elementary School. *INJIES: Journal of Islamic Education Studies*, *1*(2), 91–96. https://doi.org/10.34125/injies.v1i2.11

Amrulloh, N. M. A. G. (2024). Educator Recruitment Management in Improving Student Quality at Dwiwarna Parung High School. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(2), 80–90. https://doi.org/10.34125/jerit.v1i2.9

Adeoye, M. A., & Otemuyiwa, B. I. (2024). Navigating the Future: Strategies of EdTech Companies in Driving Educational Transformation. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(1), 43–50. Retrieved from https://jerit.unimika.ac.id/index.php/jerit/article/view/10

Adeoye, M. A., Obi, S. N., Sulaimon, J. T., & Yusuf, J. (2025). Navigating the Digital Era: AI's Influence on Educational Quality Management. *JERIT: Journal of Educational Research and Innovation Technology*, *2*(1), 14–27. https://doi.org/10.34125/jerit.v2i1.18

Ayuba, J. O., Abdullateef, L. A., & Mutathahirin, M. (2025). Assessing the Utilization of Information and Communication Technology (ICT) Tools for Teaching Secondary Schools Islamic Studies in Ilorin, Nigeria. *JERIT: Journal of Educational Research and Innovation Technology*, *2*(1), 28–37. https://doi.org/10.34125/jerit.v2i1.22

Ayuba, J. O., Abdulkadir, S., & Mohammed, A. A. (2025). Integration of Digital Tools for Teaching and Learning of Islamic Studies Among Senior Secondary Schools in Ilorin Metropolis, Nigeria. *INJIES: Journal of Islamic Education Studies*, *2*(1), 1–9. https://doi.org/10.34125/injies.v2i1.16

Baroud, N., Alouzi, K., Elfzzani, Z., Ayad, N., & Albshkar, H. (2024). Educators' Perspectives on Using (AI) As A Content Creation Tool in Libyan Higher Education: A Case Study of The University of Zawia. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(2), 61–70. https://doi.org/10.34125/jerit.v1i2.12

Gultom, C. E. F., Siahaan, A. L., & ... (2024). PENGARUH MOTIVASI BELAJAR DAN FASILITAS BELAJAR TERHADAP HASIL BELAJAR SISWA PADA MATA PELAJARAN IPS KELAS VIII DI TAMAN DEWASA …. *JOURNAL SAINS …*. https://www.ejurnal.kampusakademik.co.id/index.php/jssr/article/view/1315

Hidayatullah, R. R., Kamali, M. F., & T, . N. A. (2024). Innovative Dakwah Strategies Through Social Media: Case Study of Islamic Communication Approaches in Indonesia. *INJIES: Journal of Islamic Education Studies*, *1*(1), 16–27. Retrieved from https://injies.unimika.ac.id/index.php/injies/article/view/3

Hidayati, E., & Hutagaol, B. A.-R. (2025). An Analysis of Hasan Hanafi's Tafsir Method: Hermeneutics as An Interpretative Approach. *INJIES: Journal of Islamic Education Studies*, *2*(1), 39–48. https://doi.org/10.34125/injies.v2i1.22

Islam, I., & Ishaq, M. (2024). Development of Journalism Development Strategies in The Digital Era at Darul Mukhlasin High School. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(2), 71–79. https://doi.org/10.34125/jerit.v1i2.11

Iskandar, M. Y., Nugraha, R. A., Halimahturrafiah, N., Amarullah, T. A. H., & Putra, D. A. (2024). Development of Android-Based Digital Pocketbook Learning Media in Pancasila and Citizenship Education Subjects For Class VIII SMP . *JERIT: Journal of Educational Research and Innovation Technology*, *1*(2), 51–60. https://doi.org/10.34125/jerit.v1i2.13

Iswandi, I., Syarnubi, S., Rahmawati, U., Lutfiyani, L., & Hamrah, D. (2024). The Role of Professional Ethics Courses in Producing Prospective Islamic Religious Education Teachers with Character. *INJIES: Journal of Islamic Education Studies*, *1*(2), 71–82. https://doi.org/10.34125/injies.v1i2.9

Khofi, M. B., & Santoso, S. (2024). Optimize the Role of The State Islamic High School (MAN) Bondowoso Principal in Promoting Digital-Based Learning. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(2), 91–102. https://doi.org/10.34125/jerit.v1i2.7

Khubab, A. I., & Jaya, A. I. A. (2024). Implementation of Quality Education at the Darul Falah Amtsilati Islamic Boarding School. *INJIES: Journal of Islamic Education Studies*, *1*(1), 1–4. Retrieved from https://injies.unimika.ac.id/index.php/injies/article/view/1

Kustati, M., Indra, R., Efendi, Ritonga, M., Nelmawarni, Yulia, & Karni, A. (2023). The effect of national insight and religious moderation on radical behavior of secondary school students. *Education Research International*, *2023*(1), 2919611.

Larasati, T. A., Wahyuhastuti, N., & Drifanda, V. (2021). Pengaruh Disiplin Belajar, Motivasi Belajar dan Fasilitas Belajar Terhadap Hasil Belajar Mata Pelajaran Ekonomi Kelas X IPS SMA Negeri 1 Tahunan …. *Seminar Nasional Keindonesiaan ….*

Makaliwe, N., & Lempas, J. (2023). Pengaruh Kompetensi Guru Dan Fasilitas Belajar Terhadap Hasil Belajar Siswa Kelas X SMA Negeri 1 Tondano. *Jurnal Pendidikan Dan Konseling (JPDK)*.

Mudijono, M., Halimahturrafiah, N., Muslikah, M., & Mutathahirin, M. (2025). Harmonization of Javanese Customs and Islamic Traditions in Clean Village. *INJIES: Journal of Islamic Education Studies*, *2*(1), 10–18. https://doi.org/10.34125/injies.v2i1.15

Masita, D., Fandyansari, M. W., & Sari, L. (2024). Pengaruh Fasilitas Belajar Dan Motivasi Belajar Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Ekonomi Siswa Kelas XI Di SMA Kertanegara Malang. *Prosiding Seminar Nasional ….* http://ejurnal.uibu.ac.id/index.php/prosiding_penelitian/article/view/775

Mauliddiyah, L., & Wulandari, S. S. (2022). Pengaruh media pembelajaran daring, fasilitas belajar dan motivasi belajar terhadap hasil belajar siswa selama pandemi covid-19 di SMKN 1 Surabaya. *Edukatif: Jurnal Ilmu Pendidikan*.

Mahbubi, M., & Ahmad, A. B. (2025). Redefining Education in The Millennial Age: The Role of Junior High Schools Khadijah Surabaya as A Center for Aswaja Smart Schools. *INJIES: Journal of Islamic Education Studies*, *2*(1), 19–28. https://doi.org/10.34125/injies.v2i1.14

Peter, P., & Ginting, S. O. (2025). Pengaruh Motivasi Belajar, Fasilitas Belajar, Dan Kompetensi Guru Terhadap Hasil Belajar Mata Pelajaran TIK. *Jurnal Wira Ekonomi Mikroskil*.

Sinaga, J. J. (2021). *Hubungan Kemandirian Belajar dan Fasilitas Belajar Terhadap Hasil Belajar Biologi di Kelas XI IPA SMA Negeri 1 Pematang Siantar Tahun Pembelajaran 2020/2021*. digilib.unimed.ac.id. https://digilib.unimed.ac.id/id/eprint/43979/

Sojanah, J., Ferlinda, T., & Kodri, K. (2021). Motivasi Belajar Siswa Dan Fasilitas Belajar Siswa Sebagai Determinan Terhadap Hasil Belajar Siswa. *Jurnal MANAJERIAL*. https://ejournal.upi.edu/index.php/manajerial/article/view/26065

Stevani, P., & Marwan, M. (2021). Pengaruh Fasilitas Belajar Dan Motivasi Belajar Terhadap Prokrastinasi Akademik dan Hasil Belajar Ekonomi Siswa. *Jurnal Ecogen*.

Syafii, M. H., Rahmatullah, A. . S., Purnomo, H., & Aladaya, R. (2025). The Correlation Between Islamic Learning Environment and Children's Multiple Intelligence Development. *INJIES: Journal of Islamic Education Studies*, *2*(1), 29–38. https://doi.org/10.34125/injies.v2i1.17

Saputra, W., Akbar, A., & Burhanuddin, B. (2024). Modernization of Da'wah Methods in Fostering Interest Among Young Generation (Case Study QS. Al-Ahzab Verse 46). *INJIES: Journal of Islamic Education Studies*, *1*(2), 61–70. https://doi.org/10.34125/injies.v1i2.7

Sudiartini, N. N. (2024). *PENGEMBANGAN POSTER EDUKASI BERBASIS KONSEP GAMIFIKASI SEBAGAI MEDIA BELAJAR INTERAKTIF TENTANG MATERI IPA KELAS VI SEKOLAH ….* repo.undiksha.ac.id. https://repo.undiksha.ac.id/19284/

Sholeh, M. I., Habibulloh, M., Sokip, S., Syafi'i, A., 'Azah, N., Munif, M., & Sahri, S. (2025). Effectiveness of Blended Learning Strategy to Improving Students' Academic Performance. *JERIT: Journal of Educational Research and Innovation Technology*, *2*(1), 1–13. https://doi.org/10.34125/jerit.v2i1.17

Umar, A. T., Tampubolon, N. C., & ... (2023). ANALISIS DESKRIPSI CARA BELAJAR DAN FASILITAS BELAJAR TERHADAP HASIL BELAJAR IPS. *Jurnal Pendidikan …*. https://ejournal2.undiksha.ac.id/index.php/PIPS/article/view/3367

Yani, F., & Hasibuan, V. U. (2022). Pengaruh Cara Belajar dan Motivasi serta Fasilitas Belajar IPA Terhadap Hasil Belajar IPA Siswa kelas VI SD di Kecamatan Pancur Batu. *Jurnal Pendidikan Dan Konseling (JPDK)*.

Yulia, N. M., Asna, U. L., Fahma, M. A., Reviana, P. A., Cholili, F. N., Halimahturrafiah, N., & Sari, D. R. (2025). Use of Game-Based Learning Media Education as An Effort to Increase Interest Elementary School Students Learning. *JERIT: Journal of Educational Research and Innovation Technology*, *2*(1), 38–45. https://doi.org/10.34125/jerit.v2i1.23

Yuhana, Y., Lian, B., & Mulyadi, M. (2020). Pengaruh Fasilitas Belajar dan Motivasi Belajar terhadap Hasil Belajar Siswa Kelas VIII di SMPN 1 Indralaya. *Jurnal Intelektualita: Keislaman, Sosial Dan Sains*.

Yolanda, N. S., & Laia, N. (2024). Practicality of Mathematics Learning Media Using Applications PowToon. *JERIT: Journal of Educational Research and Innovation Technology*, *1*(1), 27–35. Retrieved from https://jerit.unimika.ac.id/index.php/jerit/article/view/4