



IMPACT OF SCHOOL FACILITIES ON STUDENT PERFORMANCE: A DESCRIPTIVE-CORRELATIONAL STUDY

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ABSTRACT

This study investigated the impact of school facilities on the academic performance of 400 junior high school students in New Bataan, Davao de Oro. Focusing on key variables such as classroom conditions, technology resources, laboratories, and sports and recreational activities, the research employs a quantitative descriptive-correlational design. A sample of students from three national high schools participated in a structured survey to assess their perceptions of school facilities and their academic outcomes. The findings reveal that while school facilities are generally perceived positively, with high mean scores across all indicators, the correlation between school facilities and student performance is weak, indicating that improvements in school infrastructure may not directly influence academic achievement. The study highlights the importance of well-maintained and adequately equipped facilities in fostering a conducive learning environment but also suggests that other factors may play a significant role in student performance. The results emphasize the need for ongoing support and resources to enhance educational outcomes. Recommendations include improving classroom design, upgrading technology access, and promoting participation in recreational activities. These findings are intended to inform policymakers, educators, and stakeholders about the critical role of school facilities in shaping student experiences and outcomes in education.

KEYWORDS: *Educational Administration, School Facilities, Classroom Condition, Technology Resources, Laboratories, Sports and Recreational Activities, Student Performance, Descriptive-Correlational Study*

Chapter I

INTRODUCTION

The Problem and Its Background

The school facilities, including classrooms, libraries, laboratories, and recreational areas play a crucial role in creating an optimal learning environment. The quality and condition of these facilities affect student engagement, concentration, and overall learning experience. Well-designed classrooms and equipped facilities promote better academic outcomes. According to Adewale et al. (2021), school facilities encompassing the physical environment of educational institutions, play a pivotal role in shaping the learning experiences and overall well-being of students, educators, and staff. These facilities extend beyond the conventional classroom, encompassing diverse spaces such as sports facilities, libraries, laboratories, and communal areas, each contributing uniquely to the educational ecosystem.

In United States of America, the condition of school facilities poses a significant global problem that hampers student achievement. The research conducted by Lair (2023) revealed that in a high-performing, high-poverty school district in Texas, demonstrates the detrimental impact of inadequate school facility conditions on student performance, as measured by the Texas Assessment of Academic Skills (TAAS) test. The findings clearly indicate that factors such as building age, overall maintenance, and cleanliness play a crucial role in shaping student achievement outcomes. These findings underscore the pressing need to address and improve school facility conditions not only in the specific district studied but also in similar high-poverty districts across the globe. By recognizing the pivotal role of conducive learning environments, policymakers, educators, and stakeholders can work collectively to overcome the challenges associated



with inadequate school facility conditions and provide students worldwide with the optimal educational settings necessary for their academic success.

One of the national problems identified regarding in school facilities in the Philippines is the inadequate condition of public-school buildings. The study of Figueroa (2016) reveals that only 38% of public-school buildings in the country are in good condition. This indicates a significant issue in the provision of suitable and well-maintained school facilities, which can have a detrimental impact on education outcomes.

Recognizing the crucial role that school facilities play in shaping student outcomes, the researcher embarks on this study which aims to assess the impact of the school facilities on the academic performance of the students. As one of the teachers in the Department of Education, the researcher has been observing for many years now that there are problems on the school facilities. Many schools do not have enough facilities to be used by students for their academic learning. Laboratory and sport equipment, learning materials, spacious classrooms are some of these school facilities that are not sufficiently available. For these observations, the researcher is motivated to conduct this study whether the school facilities have something to do with the academic performance of the students.

Statement of the Problem

This study aimed to investigate the impact of school facilities on student performance. Specifically, it sought to answer the following questions:

1. What is the impact of school facilities to students in terms of:
 - 1.1 classroom condition;
 - 1.2 technology resources;
 - 1.3 laboratories; and
 - 1.4 sport and recreational activities?
2. What is the level of student performance?
3. Is there a significant relationship between school facilities and student performance?
4. What are the domains of School Facilities that affects student performance?

Null Hypothesis

For deeper analysis of the study, the hypothesis below will be tested at 0.05 level of significance:

HO₁. There is no significant relationship between the school facilities and the student performance.

HO₂. There is no indicator of school facilities that predicts student performance.

Scope and Delimitation

This study focused on determining the effects of the school facilities on the performance of the 400 Junior high school students in New Bataan National High School, Camanlangan National High School, and Andap National High School for school year 2025-2026. This study is delimited to the school facilities that include classroom condition, technology resources, laboratories, and sport and recreational activities and the academic performance of the students. The data will be gathered through the use of an adopted survey questionnaire.

Chapter 2

METHODS

This chapter presents the research design research locale, respondents of the study, research instruments, validation of the instruments, research procedure, statistical treatment of data, and ethical considerations.

Research Design

A quantitative descriptive-correlational research design was used in this study. Quantitative method involves the processes of collecting, analyzing, interpreting, and writing the results of a study. Specific methods exist in survey research that relate to identifying a sample and population, specifying the type of design, collecting and analyzing data, presenting the results, making an interpretation, and writing the research in a manner consistent with a survey study (Creswell, 2014).

Research Respondents

The respondents of this study were the 400 Grade 10 Junior high school students in New Bataan National High School, Camanlangan National High School and Andap National High School.



Research Instrument

Data was gathered using an adopted questionnaire. In an introductory section, the respondents were acquainted with the purpose of the study and was asked to participate by filling out the questionnaire. A list of statements about different aspects of school facilities was included. This approach is informed by previous studies, including Yangambi (2023), Zheng (2016), Belandres and Dioso (2023), and Donnelly (2011), which have effectively utilized similar methodologies to assess the impact of school facilities on student performance.

Statistical Treatment of Data

The responses to the items in the questionnaire was analyzed and interpreted using the appropriate statistical tools as follows:

Average Mean. This was used to describe the impact of school facilities on student performance.

Pearson r. This test is used to determine the extent of association between the impact of school facilities on student performance.

ANOVA. This test is used to assess the overall significance of the regression model, determining whether the domains of school facilities collectively have a statistically significant effect on student performance.

Chapter III

RESULTS

This chapter deals with the presentation, analysis and interpretation of the data collected. The results of the study were presented and discussed in accordance to the research questions outlined in chapter one.

Impact of School facilities

Included the impact of school facilities are classroom condition, technology resources, laboratories and sport and recreational activities.

Classroom Condition. The assessment of classroom conditions. With consistently high mean scores across all indicators, ranging from 3.8 to 4.5, the findings suggest a well-maintained and conducive learning environment. Respondents feel that classrooms are clean, adequately lit, and ventilated, contributing to comfort during lessons. The presence of appropriate furniture and sufficient space indicates a focus on student needs, while access to up-to-date instructional technology supports effective teaching practices.

Moreover, the high ratings for access to teaching aids reflect a robust support system for educators. The aesthetically pleasing environments further enhance learning experiences. However, the slightly lower score for acoustics, while still rated as "High," suggests room for improvement in minimizing noise distractions. Overall, the data indicates a strong foundation for educational engagement, with classrooms viewed as positive spaces for learning and growth.

Technology Resources.

The data presents a very positive view of the technology resources available in the school. With consistently high mean scores across all indicators, ranging from 3.7 to 4.3, all categorized as "High," the findings suggest that the school effectively supports teaching and learning through technology. Respondents feel that access to computers, reliable internet, and modern multimedia tools enhances educational experiences.

Training and support for teachers indicate a strong commitment to integrating technology into teaching practices, fostering effective use among educators. The presence of an IT support team ensures that technical issues are addressed promptly, further facilitating the use of technology in classrooms. Moreover, the encouragement of collaborative learning through technology demonstrates an emphasis on teamwork and engagement among students.

While the data reflects a solid foundation, the slightly lower scores for internet reliability and access to personal devices highlight areas for improvement. Overall, the results underscore a proactive approach to utilizing technology to enhance student engagement and learning outcomes.



Laboratories. The data presents a very positive assessment of the laboratory facilities at the school. With consistently high mean scores across all indicators, ranging from 3.6 to 4.4, all categorized as "High," the findings suggest that the laboratories are well-equipped to support practical and hands-on learning experiences.

Respondents feel that the science and computer laboratories are particularly functional, providing a conducive environment for learning. The presence of a variety of up-to-date equipment and regular maintenance indicates a strong commitment to maintaining high standards in laboratory settings. Furthermore, the encouragement of active student participation reflects an emphasis on engagement and collaborative learning.

While the scores for language laboratories are slightly lower, indicating room for improvement, the overall results underscore the effectiveness of the laboratories in enhancing students' understanding and application of concepts. The findings highlight a proactive approach to utilizing well-equipped laboratory facilities to foster educational success.

Sport and Recreational Activities. The data paints a very positive picture of the sports and recreational activities available at the school. With consistently high mean scores across all indicators, ranging from 4.1 to 4.6, all categorized as "High" or "Very High," the findings suggest that the school offers a robust array of opportunities for physical engagement and fitness. Respondents report feeling that the variety of sports and recreational activities significantly enhances their school experience, promoting not only physical health but also social interaction and teamwork.

The presence of well-maintained sports facilities and organized sports teams indicates a strong commitment to providing quality environments for student participation. Furthermore, the promotion of physical fitness and regular exercise is evident, as respondents express appreciation for engaging physical education classes that are both enjoyable and beneficial.

The recognition of student achievements in sports highlights the school's supportive culture, reinforcing the value placed on athletic accomplishments. Additionally, respondents believe that participation in these activities positively impacts their overall well-being and academic performance. Overall, the data underscores a proactive approach to fostering a vibrant and inclusive sports culture that contributes significantly to students' holistic development.

Students' Performance. The data presents an overview of the academic performance of students. With a sample size of 400, the mean score is 16.40 and the standard deviation is 3.96. The percentage rating of 74.58% indicates a moderate level of academic achievement.

Categorized as "Fairly Satisfactory," these results suggest that while students are performing adequately, there remains potential for improvement. The fairly satisfactory rating highlights the need for ongoing support and resources to enhance academic outcomes. Overall, the findings emphasize the importance of targeted interventions to further boost students' academic performance and success.

Significant relationship between school facilities and student performance. The data examines the relationship between school facilities and student performance, revealing a Pearson correlation coefficient of -0.008. This indicates a very weak negative correlation between the two variables, suggesting that changes in school facilities do not significantly influence academic performance. Additionally, the significance value (p-value) is 0.875, which is well above the common alpha level of 0.05, indicating that the correlation is not statistically significant. As a result, we fail to reject the null hypothesis (H_0), which posits that there will be no significant relationship between school facilities and student performance. These findings imply that improvements in school facilities may not have a direct impact on students' academic outcomes.

Domains of School Facilities that affects students performance. The output of a regression analysis, indicating the relationship between several predictor variables and an outcome variable. The intercept, or constant, is 16.259, suggesting that when all predictors are zero, the expected outcome is approximately 16.259. Among the predictor variables, Classroom Condition has a negative coefficient of -0.128, but it is not statistically significant ($p = 0.822$). Technology Resources shows a positive coefficient of 0.189, yet it also lacks significance ($p = 0.653$). Laboratories have a negative effect with a coefficient of -0.459, and like the others, it is not significant ($p = 0.266$). Lastly, Sports



and Recreational Activities exhibit a positive coefficient of 0.393, but again, it is not statistically significant ($p = 0.426$). Overall, none of the predictor variables demonstrate a statistically significant effect on the outcome.

Chapter IV

DISCUSSIONS AND CONCLUSION

This chapter presents the discussions of the results and the conclusion of the study.

Discussions

Level of the Impact of School Facilities. School facilities significantly influence students' educational experiences and outcomes, encompassing classroom conditions, technology resources, laboratories, and sports and recreational activities (Andrade et al., 2024). A positive classroom environment is crucial for effective learning, fostering a sense of belonging, motivation, support, and participation, which leads to improved academic performance and overall well-being (Hasnanto, 2024). Well-maintained, clean, adequately lit, and ventilated classrooms contribute to students' comfort and focus (Ali et al., 2020).

Technology resources play an essential role in modern education, enhancing learning experiences through access to computers, reliable internet, and multimedia tools (Parveen & Ramzan, 2024). Technology integration supports diverse learning styles, promotes collaboration, and prepares students with essential digital literacy skills for the 21st-century workforce (Zou et al., 2025). Furthermore, it breaks down geographical barriers and provides access to educational resources for students regardless of their socioeconomic status or location (Ruiz-Rojas et al., 2024).

Laboratories offer invaluable opportunities for practical and hands-on learning, fostering a deeper understanding of scientific concepts and developing critical skills such as experimental design, data analysis, and teamwork (Raman et al., 2022). These facilities encourage active student participation, stimulate curiosity, and provide a safe space to explore scientific problems, enabling students to become scientists, engineers, and innovators.

Sports and recreational activities contribute significantly to students' physical and mental well-being, academic performance, and overall development. Participation in sports promotes physical fitness, reduces stress and anxiety, enhances social connections, and teaches time management and discipline (Rogers, 2024). Moreover, it fosters leadership skills, boosts self-esteem, teamwork, perseverance, and respect, preparing students for future success (Alasinrin & Ajeigbe, 2021).

Level of Students Performance. The academic performance of students reveals a "Fairly Satisfactory" level of achievement, suggesting that while students are meeting a moderate level of academic standards, there is potential for improvement. This rating underscores the importance of providing continuous support and resources to enhance academic outcomes and foster greater success among students. Schools can implement varied teaching methodologies, leverage technology, and incorporate interactive learning to improve students' academic performance (Bhardwaj et al., 2025). Moreover, focusing on emotional and mental well-being, strengthening teacher training and development, implementing personalized learning plans, and enhancing parent-teacher collaboration can further boost academic results (Yaseen et al., 2025). Creating a positive and stimulating learning environment is also crucial for encouraging students to learn and grow academically (Priyadharsini & Mary, 2024).

Significant relationship between the impact of school facilities and the academic performance of the learner.

The data examines the relationship between school facilities and student performance, revealing a Pearson correlation coefficient of -0.008. This indicates a very weak negative correlation between the two variables, suggesting that changes in school facilities do not significantly influence academic performance. Additionally, the significance value (p-value) of 0.875 is well above the common alpha level of 0.05, indicating that the correlation is not statistically significant. As a result, the null hypothesis, which posits that there will be no significant relationship between school facilities and student performance, is not rejected. These findings imply that improvements in school facilities may not have a direct impact on students' academic outcomes based on this data.

However, it's important to note that numerous studies suggest a more complex relationship, where factors such as building conditions, air quality, classroom design, and access to resources can influence student engagement, behavior, and achievement (Xu et al., 2023). Some research even indicates that students in newer or renovated facilities tend to score higher on standardized tests (Wang et al., 2024). Therefore, while this specific dataset shows no significant



correlation, broader research suggests that school facilities can play a role in shaping the learning environment and, consequently, student outcomes (Edgerton & McKechnie, 2023).

Domains of School Facilities that affects student performance. The analysis of how different school facility domains relate to student performance; however, the findings suggest that none of the examined domains have a statistically significant impact. The intercept in the regression model indicates an expected baseline performance of 16.259 when all facility domains are at zero, but this baseline doesn't tell the whole story. While classroom condition shows a negative association, and technology resources and sports activities show positive associations, none of these relationships are strong enough to be considered statistically meaningful in this model. Laboratories also exhibit a negative coefficient, further emphasizing the lack of significant predictors among the considered school facilities.

The absence of statistically significant results across these domains suggests that other factors, not captured in this analysis, may be more influential in determining student performance. It's possible that the impact of school facilities is more nuanced or interacts with other variables like teaching quality, socio-economic factors, or student motivation (Suleiman, 2023). Therefore, while intuitively, one might expect better facilities to improve student outcomes, this particular analysis does not provide statistical evidence to support that expectation, highlighting the complexity of educational research and the need to consider a multitude of factors when evaluating student performance (Andrade et al., 2024).

Conclusion

The findings of the study indicate that school facilities, including classroom conditions, technology resources, laboratories, and sports and recreational activities, play a crucial role in shaping students' educational experiences. While the overall assessment of these facilities is positive, with high mean scores suggesting a conducive learning environment, the analysis of the relationship between school facilities and academic performance reveals a very weak negative correlation. This suggests that improvements in school facilities may not significantly influence academic outcomes for students. Despite the lack of a statistically significant relationship in this dataset, existing literature highlights the importance of well-maintained and adequately equipped facilities in promoting student engagement and success.

Recommendations

Based on the findings of the study, several practical recommendations are hereby offered to enhance the impact of school facilities on student performance and overall educational experience.

Given that the classroom environment received a slightly lower score, it is recommended to invest in soundproofing measures or classroom design improvements to minimize distractions and create a more focused learning environment.

While technology resources are rated positively, efforts should be made to ensure reliable internet access and provide more personal devices for students. This will facilitate better integration of technology into learning.

Address the lower ratings in language laboratories by upgrading equipment and resources, ensuring that all laboratory settings are equally conducive to hands-on learning.

Continue to encourage participation in sports and recreational activities, recognizing their positive impact on students' overall well-being and potential influence on academic performance.

Implement regular training sessions for teachers on effectively utilizing school facilities and technology in their teaching practices, ensuring they are well-equipped to enhance student learning experiences.

Conduct longitudinal studies to explore the long-term effects of school facilities on academic performance, considering additional variables such as student engagement and socio-economic factors.

REFERENCES

1. Adewale, B. A., Jegede, F., Okubote, F., & Olagbadegun, M. (2021). *Impact Of Classroom Environments' On The Academic Performance Of Architecture Students In Covenant University*. IOP Conference Series Earth and Environmental Science, 665(1), 12017. <https://doi.org/10.1088/1755-1315/665/1/012017>



2. Alasinrin, S., & Ajeigbe, I. Y. (2021). Sports participation and its implication on the academic performance of students in tertiary institutions in Nigeria: A literature review [Review of Sports participation and its implication on the academic performance of students in tertiary institutions in Nigeria: A literature review]. *Edu Sportivo/Edu Sportivo*, 2(3), 180. UIR Press. [https://doi.org/10.25299/es:ijope.2021.vol2\(3\).7929](https://doi.org/10.25299/es:ijope.2021.vol2(3).7929)
3. Ali, N., Khan, A. B., & Ahmad, T. (2020). Effects of School Building on Academic Achievement of Secondary School Students in Southern KP, Pakistan. *Global Educational Studies Review*, 28. [https://doi.org/10.31703/gesr.2020\(v-ii\).04](https://doi.org/10.31703/gesr.2020(v-ii).04)
4. Andrade, A. E., Padilla, L., & Carrington, S. J. (2024). EDUCATIONAL SPACES: THE RELATION BETWEEN SCHOOL INFRASTRUCTURE AND LEARNING OUTCOMES. *Heliyon*, 10(19). <https://doi.org/10.1016/j.heliyon.2024.e38361>
5. Blandres, A. and Dioso E. (2023). Preparedness Of Technical Vocational Workshop Laboratories: Its Effect On Students' Competence And Skills Acquisition. *Epra International Journal Of Multidisciplinary Research (Ijmr)*. Journal DOI: 10.36713
6. Bhardwaj, V., Zhang, S., Tan, Y. Q., & Pandey, V. (2025). Redefining learning: student-centered strategies for academic and personal growth. *Frontiers in Education*, 10. <https://doi.org/10.3389/feduc.2025.1518602>
7. Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.
8. Donnelly, J. E., & Lambourne, K. (2011). Classroom-based physical activity, cognition, and academic achievement. *Preventive medicine*, 52, S36-S42.
9. Edgerton, E., & McKechnie, J. (2023). The relationship between student's perceptions of their school environment and academic achievement. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.959259>
10. Figueroa, L. L. (2016). *Spatial modelling for understanding the correlation between school facilities and academic performance in the Philippines* (Doctoral dissertation, UNSW Sydney).
11. Hasnanto, A. T. (2024). Effective Classroom Management to Create a Positive Learning Environment. *Journal Corner of Education Linguistics and Literature*, 4(1), 257. <https://doi.org/10.54012/jcell.v4i001.388>
12. Lair, S. B. (2003). *A study of the effect school facility conditions have on student achievement*. The University of Texas at Austin.
13. Parveen, D. S., & Ramzan, S. I. (2024). The Role of Digital Technologies in Education: Benefits and Challenges. *Deleted Journal*, 2(6), 2029. <https://doi.org/10.47392/irjaem.2024.0299>
14. Priyadharsini, V., & Mary, R. S. J. (2024). Universal Design for Learning (UDL) in Inclusive Education: Accelerating Learning for All. *Shanlax International Journal of Arts Science and Humanities*, 11(4), 145. <https://doi.org/10.34293/sijash.v11i4.7489>
15. Raman, R., Achuthan, K., Nair, V. K., & Nedungadi, P. (2022). Virtual Laboratories- A historical review and bibliometric analysis of the past three decades [Review of Virtual Laboratories- A historical review and bibliometric analysis of the past three decades]. *Education and Information Technologies*, 27(8), 11055. Springer Science+Business Media. <https://doi.org/10.1007/s10639-022-11058-9>
16. Rogers, C. M. (2024). *The Role of Sport for Adolescents: The Effect of Sport Participation as a Unique Form of Physical Activity on Mental Health and Overall Subjective Well-being during Adolescence*. https://scholarcommons.sc.edu/cgi/viewcontent.cgi?article=1707&context=senior_theses
17. Ruiz-Rojas, L. I., Salvador-Ullauri, L., & Acosta-Vargas, P. (2024). Collaborative Working and Critical Thinking: Adoption of Generative Artificial Intelligence Tools in Higher Education. *Sustainability*, 16(13), 5367. <https://doi.org/10.3390/su16135367>
18. Suleiman, A. H. (2023). Factors That Affect Students' Academic Achievement in the Faculty of Social Science at the University of Bosaso, Garowe, Somalia. *Open Journal of Social Sciences*, 11(2), 446. <https://doi.org/10.4236/jss.2023.112029>
19. Wang, Y., Wang, L., Yang, L., & Wang, W. (2024). Influence of perceived social support and academic self-efficacy on teacher-student relationships and learning engagement for enhanced didactical outcomes. *Scientific Reports*, 14(1). <https://doi.org/10.1038/s41598-024-78402-6>
20. Xu, X., Shi, Z., Bos, N. A., & Wu, H. (2023). Student engagement and learning outcomes: an empirical study applying a four-dimensional framework. *Medical Education Online*, 28(1). <https://doi.org/10.1080/10872981.2023.2268347>
21. Yangambi, M. (2023). Impact of school infrastructures on students learning and performance: Case of three public schools in a developing country. *Creative Education*, 14(4), 788-809.
22. Yangambi, M. (2023). *Impact of School Infrastructures on Students Learning and Performance: Case of Three Public Schools in a Developing Country*. In *Creative Education* (Vol. 14, Issue 4, p. 788). Scientific Research Publishing. <https://doi.org/10.4236/ce.2023.144052>
23. Yaseen, H., Mohammad, A. S., Ashal, N., Abusaimh, H., Ali, A. A. A., & Sharabati, A. A. (2025). The Impact of Adaptive Learning Technologies, Personalized Feedback, and Interactive AI Tools on Student Engagement: The Moderating Role of Digital Literacy. *Sustainability*, 17(3), 1133. <https://doi.org/10.3390/su17031133>
24. Zheng, B., Warschauer, M., Lin, C. H., & Chang, C. (2016). Learning in one-to-one laptop environments: A meta-analysis and research synthesis. *Review of educational research*, 86(4), 1052-1084.



25. Zou, Y. L., Kuek, F., Feng, W., & Cheng, X. (2025). *Digital learning in the 21st century: trends, challenges, and innovations in technology integration*. *Frontiers in Education*, 10. <https://doi.org/10.3389/educ.2025.1562391>