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Functionality of Educational Facilities and its Perceived Impact on the Academic Performance of Public High School Learners

Michael F. Maglinte*
Sevilla Integrated School, Sto. Niño, Samar, Institute of Graduate Studies and Research, Christ the King College of Calbayog City, Inc., Calbayog City, Philippines

Abstract—Educational facilities play a critical role in shaping learners' academic experiences and outcomes in schools. This study assessed the level of functionality of educational facilities and their perceived impact on the academic performance of public high school learners in Sto. Niño District, Schools Division of Samar, for School Year 2025–2026. A descriptive-causal comparative research design was employed using a validated survey questionnaire administered to 290 high school learners. Findings revealed that respondents were predominantly early adolescents, with a majority being male, and were largely from Grades 7–8. In terms of academic performance, most learners demonstrated very satisfactory achievement. In relation to the level of functionality, all educational facilities, including food and sanitation, Science laboratories, ICT and TLE-related facilities, and academic parks, were rated as very functional, with ICT and TLE-related facilities which obtained the lowest mean. Similarly, in terms of perceived impact, all educational facilities were rated as having a very high impact on academic performance, although ICT and TLE-related facilities again recorded the lowest mean. When differences were examined, no significant differences were found in the level of functionality across profile variables. However, a significant difference emerged in the perceived impact of ICT and TLE-related facilities when grouped according to age, with middle adolescents reporting a stronger impact than late adolescents. The study concludes that educational facilities are both functional and influential in supporting learners' academic performance. In light of these results, it is recommended that schools strengthen age-responsive and innovation-driven integration of ICT and TLE-related facilities while sustaining equitable improvement across all educational facilities.

***Index Terms*—Facility Effectiveness, Learner Achievement, School Infrastructure, Resource Utilization, Public Schooling.**

1. The Problem and its Background

A. Introduction

Educational facilities in the context of public high schools cover a full range of physical infrastructures essential to teaching and learning, including classrooms, science laboratories, ICT and TLE-related rooms, food and sanitation facilities, and outdoor academic parks (Earthman, 2017; OECD, 2019). These facilities are not merely structural provisions but are integral to shaping learning environment that influence student engagement, health, and academic performance (Barrett et al., 2019; Uline & Tschannen-Moran, 2008). A growing body of international evidence demonstrates that well-designed school facilities contribute to improved attendance, motivation, and achievement (Schneider, 2002; OECD, 2019). Barrett et al. (2019) showed that adequate lighting, ventilation, sanitation, play areas, and flexible spaces enhance learning, while Earthman (2017) and Duarte et al. (2016) linked deficient infrastructure to absenteeism, health risks, and poor performance. Consequently, education research places increasing emphasis on the physical and functional quality of facilities, underscoring that infrastructure investments are as crucial as curriculum and teacher quality in advancing holistic learner development. At the global level, educational facilities are recognized as fundamental to advancing Sustainable Development Goal 4 (SDG 4), which calls for inclusive, equitable, and quality education for all.

Despite these global affirmations, many developing countries contend with aging and overcrowded classrooms, inequitable infrastructure distribution, and insufficient science laboratories, particularly in rural areas. In the Philippine context, the Department of Education (DepEd) consistently emphasizes the role of school facilities in supporting the K to 12 Program and improving learning conditions. Nevertheless, persistent challenges remain evident across public schools, including inadequate laboratories, poor sanitation facilities, limited ICT resources, and underutilized school parks, which collectively undermine the vision of creating inclusive and conducive learning environments. Samar's public high schools, in particular, operate within geographic and socio-economic realities that constrain the development and upkeep of these facilities. As a rural and hazard-prone province, Samar contends with limited fiscal resources, poverty, and frequent natural disasters that worsen the deterioration of school infrastructure and delay modernization efforts.

While research consistently affirms that the quality and functionality of educational facilities are vital to student engagement and academic performance, significant gaps remain in the literature. Few studies comprehensively assess

*Corresponding author: elvin.jarito@deped.gov.ph

facility functionality across specific domains such as food and sanitation, science laboratories, ICT and TLE facilities, and academic parks in Philippine public high schools. Furthermore, most studies focus on engagement and satisfaction rather than direct links to academic performance, with limited evidence existing from rural and socio-economically constrained settings like Samar. In response, the present study aimed at filling this gap by systematically examining the functionality of educational facilities and their perceived impact on the academic performance of public high school learners in Sto. Niño District, Schools Division of Samar, thereby providing localized evidence to inform targeted school improvement planning.

B. Background to the Study

The functionality of educational facilities is widely recognized as a critical determinant of student learning outcomes, encompassing the physical, instructional, and environmental resources that shape the quality of education. Grounded in frameworks such as the Educational Production Function and social learning theories, school facilities are viewed not merely as structural provisions but as essential inputs that directly affect student behavior, discipline, and multidimensional achievement (Olugbenga, 2019; Owan et al., 2023). Global empirical evidence consistently demonstrates a strong correlation between facility functionality and academic success. For example, deteriorating facilities in Ghana have been linked to absenteeism and reduced teacher morale, while in Malaysia, resources such as teaching aids and ICT facilities accounted for a significant variance in student performance (Otchere et al., 2019; Ramli & Mohd Zain, 2019). These global realities underscore the urgency of international commitments, such as UNESCO's Sustainable Development Goal 4 (SDG 4), which foregrounds sustainable infrastructure as a cornerstone of inclusive and equitable education.

In the Philippine context, the Department of Education (DepEd) provides clear policy guidance on the planning, provision, and maintenance of school facilities through the Educational Facilities Manual and DepEd Order No. 35, s. 2017. These frameworks institutionalize the implementation of the Basic Education Facilities Fund (BEFF) to ensure that learning environments are safe, functional, and disaster-resilient.

However, a significant gap remains in understanding how these facilities function and impact learning in highly constrained, rural settings. Public high schools in Samar operate within distinct geographic and socio-economic realities, contending with limited fiscal resources, high poverty rates, and frequent natural disasters that accelerate infrastructure deterioration. Students in these hazard-prone areas often face stark disparities in the functionality of both foundational and 21st-century learning spaces compared to their urban counterparts. Because most existing studies focus broadly on student satisfaction or analyze only a single facility type in isolation, there is a distinct lack of holistic, localized analysis. The present study is therefore warranted to systematically examine the functionality of diverse facilities—sanitation, science laboratories, ICT/TLE rooms, and academic parks—and their perceived influence on academic performance in Sto. Niño District, ultimately providing context-specific evidence to drive targeted and equitable educational planning.

C. Theoretical Underpinnings

This study is primarily anchored on the Educational Production Function (EPF) Theory developed by Eric A. Hanushek, a leading economist of education. The EPF theory conceptualizes education as a production process where various inputs such as teacher quality, school resources, facilities, family background, and peer influences combine to produce outputs in the form of student achievement and learning outcomes (Hanushek, 2008). The model emphasizes that student performance is not shaped by a single factor but results from the cumulative and interactive effects of these inputs over time. Importantly, while earlier studies measured educational success in terms of years of schooling, Hanushek (2008) argued that such attainment-based measures fail to capture the quality of learning. Instead, the EPF approach highlights those tangible outcomes, particularly cognitive skills and achievement levels, provide a more accurate representation of education's impact on both individual development and broader socio-economic productivity. The EPF theory is particularly relevant to the present study, which seeks to examine the functionality of educational facilities (inputs) and their perceived impact on the academic performance (outputs) of public high school learners. The theory provides a logical lens for analyzing how physical resources such as classrooms, science laboratories, ICT and TLE-related facilities, sanitation services, and academic parks contribute to shaping student engagement, learning conditions, and eventual academic outcomes. Moreover, the theory aligns with the study's investigation of differences in facility functionality and impact when grouped by learner profiles (age, gender, grade level, and general academic performance). These demographic variables parallel the family and peer attributes identified in Hanushek's framework as additional inputs influencing achievement.

This study is also supported by Bronfenbrenner's Ecological Systems Theory, which posits that a learner's development is shaped by multiple, nested environmental systems that interact with one another over time (Bronfenbrenner, 1977, 1979, as cited in Guy-Evans, 2024). These systems include the microsystem (immediate settings such as family, peers, and schools), mesosystem (linkages between microsystems such as home–school relationships), exosystem (indirect influences like parental work conditions or local government decisions), macrosystem (cultural values, socio-economic conditions, and educational policies), and chronosystem (life transitions and historical events that influence development). Each level of the ecological system contributes to how learners experience their environments, meaning that schools, families, communities, and broader societal structures collectively shape educational outcomes. The theory's relevance to the present study lies in situating school facilities within the microsystem, as learners' daily interactions with classrooms, science laboratories, ICT and TLE-related facilities, sanitation areas, and academic parks

directly affect their engagement, safety, and well-being. The mesosystem also plays a role: interactions between schools and families may influence how facility-related challenges are addressed and how learners perceive their learning environment. The exosystem highlights how external decisions such as local government funding for school infrastructure affect students even when they are not directly involved in these processes. Meanwhile, the macrosystem reflects broader socio-economic disparities, educational reforms, and cultural attitudes toward infrastructure that shape access to resources, particularly in rural provinces such as Samar. Finally, the chronosystem emphasizes how time-bound events like natural disasters, economic cycles, and national education reforms create shifts that influence the adequacy and functionality of school facilities.

Bronfenbrenner's framework helps explain why the functionality of facilities cannot be viewed in isolation but rather as part of a broader web of interrelated influences. While the Educational Production Function Theory positions facilities as critical "inputs" affecting "outputs" like academic performance, Bronfenbrenner's theory complements this by situating those inputs within layered environmental systems that reflect socio-economic conditions, rural disadvantage, and policy decisions. Together, these theoretical underpinnings provide a comprehensive lens for assessing how the functionality of food and sanitation facilities, science laboratories, ICT/TLE-related facilities, and academic parks may shape the academic outcomes of public high school learners in Sto. Niño District.

D. Conceptual Framework

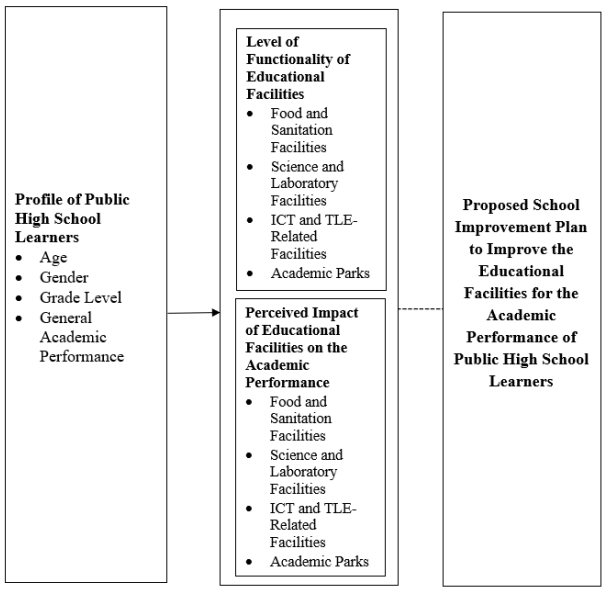

Fig. 1. Conceptual framework

Figure 1 illustrates the study's conceptual framework, which utilizes an independent variable–dependent variable (IV–DV) model to map the relationships that inform the proposed school improvement plan.

As shown in the paradigm, the leftmost box outlines the learners' profile (age, gender, grade level, and general academic performance), acting as antecedent variables that may influence how students assess their educational environment. The central box details the core analytical relationship: the level of functionality of educational facilities serves as the independent variable, while the perceived impact of these facilities on academic performance represents the dependent variable. The directional flow demonstrates that a learner's profile can influence their assessment of both the facilities' functionality and their perceived impact, while also highlighting the direct effect functionality has on academic performance. Finally, the rightmost box presents the primary output: a proposed school improvement plan derived from analyzing these interactions to better support student learning outcomes.

E. Statement of the Problem

This study assessed the functionality of educational facilities and its perceived impact on the academic performance of public high school learners in Sto. Niño District, Schools Division of Samar for the School Year 2025-2026. Specifically, it sought answers to the following questions:

1. What is the profile of the public high school learners in terms of:
   1.1 age;
   1.2 gender;
   1.3 grade level; and
   1.4 general academic performance?
2. What is the level of functionality of educational facilities as assessed by the public high school learners in terms of:
   2.1 food and sanitation facilities;
   2.2 science laboratory facilities;
   2.3 ICT and TLE-related facilities; and
   2.4 academic parks?
3. What is the perceived impact of educational facilities on the academic performance as assessed by the public high school learners in terms of:
   3.1 food and sanitation facilities;
   3.2 science laboratory facilities;
   3.3 ICT and TLE-related facilities; and
   3.4 academic parks?
4. Is there a significant difference in the level of functionality of educational facilities as assessed by the public high school learners when grouped according to their profile?
5. Is there a significant difference in the perceived impact of educational facilities on the academic performance as assessed by the public high school learners when grouped according to their profile?
6. Based on the findings of the study, what school improvement plan can be proposed to improve the educational facilities for the academic performance of public high school learners?

F. Hypothesis/Assumption of the Study

The researcher used the following null hypotheses to guide the analysis of the problem:

HO_1. There is no significant difference in the level of

functionality of educational facilities as assessed by the public high school learners when grouped according to their profile.

HO_2. There is no significant difference in the perceived impact of educational facilities on the academic performance as assessed by the public high school learners when grouped according to their profile.

G. Scope and Limitations

This study focused on assessing the functionality of educational facilities and their perceived impact on the academic performance of public high school learners in Sto. Niño District, Schools Division of Samar for the School Year 2025–2026. It covered four (4) major domains of school facilities which included food and sanitation facilities, science and laboratory facilities, ICT and TLE-related facilities, and academic parks. The study also considered the profile of learners in terms of age, gender, grade level, and general academic performance to determine whether significant differences exist in their assessment. The results of this investigation served as the basis for proposing a school improvement plan to enhance facility adequacy and support student learning outcomes.

On the other hand, the research was delimited to public high schools in Sto. Niño District, which means that the findings may not fully represent the conditions of schools in other districts or private institutions. The study was further delimited to selected educational facilities and did not include classroom facilities as part of the assessment. Data on the functionality and perceived impact of educational facilities on academic performance were based on students' perceptions, which may be influenced by subjectivity or limited awareness of technical standards for facility adequacy. Moreover, the study was delimited in scope as it did not consider other factors that may affect academic performance, such as teacher quality, family background, or curriculum implementation, focusing instead on the role of educational facilities.

H. Significance of the Study

This study is significant as it advances social values, national development, knowledge generation, and continuous improvement in education. Assessing the functionality of educational facilities and their perceived impact on learners' academic performance highlights how well-maintained, inclusive, and safe school environments cultivate essential social values such as responsibility, cooperation, respect, and care for shared spaces. For example, functional sanitation facilities promote not only hygiene and health awareness but also discipline and respect for communal property. Likewise, accessible ICT and TLE laboratories nurture collaboration, creativity, and entrepreneurship which are values that empower learners to become productive, socially responsible citizens.

Beyond the school setting, the study reinforces the broader social value of equity by ensuring that learners in the Sto. Niño District, regardless of socioeconomic background, have access to conducive learning environments comparable to those in urban schools. This promotes social cohesion and reduces educational inequality, allowing every learner to participate meaningfully in academic and community life. The research outcomes can also guide school-community partnerships in maintaining facilities, thereby fostering collective ownership, volunteerism, and civic engagement among parents, teachers, and local stakeholders.

At the national level, the study contributes to nation-building by supporting Sustainable Development Goal 4 on quality education, offering localized evidence that can guide resource allocation in Sto. Niño District to reduce rural–urban disparities and strengthen human capital. It also contributes to the body of knowledge by filling gaps in empirical research on the functionality of food and sanitation facilities, laboratories, ICT/TLE resources, and academic parks in Philippine public high schools, producing statistical findings that can enrich both local and international literature. Finally, the study informs the continuous improvement of the teaching and learning process by identifying which facilities most urgently need enhancement and by proposing a school improvement plan that serves as a concrete blueprint for aligning physical resources with pedagogical practices to support learner achievement.

2. Related Literature and Studies

The functionality of educational facilities is widely recognized as a critical determinant of student learning outcomes, with definitions commonly covering the physical, instructional, and environmental resources that shape the quality of education, including classrooms, laboratories, sanitation, ICT, and academic spaces (Otchere et al., 2019; Olugbenga, 2019; Ramli & Mohd Zain, 2019; Navarro, 2024). The relationship between facilities and learning has been grounded in frameworks which emphasize facilities as educational inputs that directly affect teaching processes and multidimensional outcomes (Owan et al., 2023), as well as environmentalist and social learning theories that highlight how environmental conditions like lighting, ventilation, and space shape student behavior, discipline, and achievement (Olugbenga, 2019). Empirical evidence across contexts consistently demonstrates a strong correlation between facility functionality and academic achievement. The World Bank (2019) found that adequate infrastructure investment boosts learning equity globally; in Ghana, deteriorating facilities were linked to absenteeism and reduced teacher morale (Otchere et al., 2019); in Malaysia, teaching aids, ICT, and hostel facilities explained 51.5% of the variance in student performance (Ramli & Mohd Zain, 2019); and in Nigeria, facilities predicted up to 27% of affective and psychomotor learning outcomes (Owan et al., 2023). These findings are reinforced by national and international policy frameworks that foreground infrastructure as a cornerstone of quality education, including global commitments such as UNESCO's SDG 4 and World Bank human capital development strategies.

In the Philippine context, the Department of Education provides clear policy guidance on the planning, provision, and maintenance of school facilities through the Educational Facilities Manual (DepEd, 2010) and DepEd Order No. 35, s. 2017, which outlines standards for school infrastructure and the implementation of the Basic Education Facilities Fund (BEFF).

The Educational Facilities Manual establishes technical standards for site selection, classroom design, sanitation, and specialized facilities, ensuring that school environments are safe, functional, and conducive to learning. Complementing this, DepEd Order No. 35 institutionalizes systematic planning, prioritization, and monitoring of infrastructure projects, emphasizing equity, disaster resilience, and alignment with national education goals.

In this context, access to adequate sanitation facilities is essential for fostering learner health, well-being, and academic performance, as schools serve not only as learning environments but also as crucial settings for health promotion. Evidence from global and national frameworks underscores that sanitation encompasses clean toilets, safe water, handwashing stations, food safety, and waste management systems. UNICEF's WASH programs in China documented reductions in absenteeism by up to 42% following sanitation interventions (UNICEF China, 2015), while WHO (2009) emphasized minimum international standards for hygiene practices. Similarly, DepEd's Three Star Approach in the Philippines sets specific pupil-to-toilet ratios and sanitation maintenance mechanisms, demonstrating direct links between functional sanitation and reduced truancy (DepEd, 2018). Empirical evidence consistently demonstrates that functional sanitation reduces absenteeism, prevents illness, and supports gender equity, while poor facilities contribute to disease and psychosocial stress (Gyabaah et al., 2009; Egbuche et al., 2025; Jacob & Alex, 2024).

Furthermore, school food facilities are critical in shaping students' health, nutrition, and academic outcomes, as they directly influence dietary habits, exposure to foodborne risks, and learning readiness. Studies consistently reveal that proper sanitation, food safety compliance, and nutritional quality in school canteens enhance students' well-being. Evidence from the Philippines and India shows that food handlers' knowledge, attitudes, and practices strongly correlate with students' health, with inadequate sanitation linked to stomach discomfort, absenteeism, and reduced performance (Ramos & Despojo, 2025; Mujaddeedaunnisa & Arshi, 2022). Research highlights that unhealthy canteen food choices, poor hygiene protocols, and weak implementation of safety practices worsen adolescent health risks and diminish concentration in class (Illés et al., 2021; Matela et al., 2022).

Similarly, science laboratories are widely recognized as essential to fostering meaningful science learning and improving academic performance, as they provide spaces for inquiry, experimentation, and the integration of theory with practice. Studies have affirmed that laboratories enhance students' conceptual understanding, problem-solving, and collaborative skills (Hofstein, 2024; Sroczynski, 2022). Empirical evidence shows that schools with functional and adequately equipped laboratories achieve higher levels of student performance in science subjects (Musana & Mugiraneza, 2024; Safani et al., 2025; Shana & Abulibdeh, 2020). However, regional evidence from the Philippines and Uganda highlights systemic inequities, with many public schools possessing only basic apparatus while lacking advanced equipment, chemicals, or proper facilities, compounded by shortages of qualified science teachers (Abas & Marasigan, 2020; Cabusor & Antonio, 2025).

In addition, the availability and functionality of ICT facilities are crucial in enhancing teaching and learning outcomes, particularly in preparing learners for the demands of the digital age. Several studies revealed that while ICT integration contributes positively to student engagement and instructional delivery, its effectiveness is often hindered by inadequate resources, poor maintenance, insufficient teacher training, and unstable internet connectivity (Bandico-Brasileño & Bidad, 2021; Espinosa et al., 2025). Evidence shows that students and teachers often demonstrate proficiency in basic ICT skills but lack expertise in advanced applications, digital libraries, and statistical tools. Despite these gaps, studies consistently affirm that ICT enhances student engagement, fosters collaboration, supports active learning, and contributes to academic achievement when effectively integrated.

Building on this, the functionality of Technology and Livelihood Education (TLE) laboratories plays a crucial role in enhancing students' academic performance by providing opportunities for applied learning, skill development, and experiential engagement. Studies reveal that the sufficiency of instructional resources, including laboratory equipment and facilities, is strongly correlated with positive student outcomes (Embodo & Alonzo, 2024; Ventura, 2024). However, persistent gaps such as limited materials and resource disparities across schools have been found to constrain the effectiveness of TLE laboratories (Cabutihan, Manaois, & Tomas, 2024; Ogbonnaya et al., 2022).

Across contexts, academic parks and green educational spaces are increasingly recognized as vital infrastructures that enhance academic performance and foster innovation. Research shows that school-based green spaces can positively influence test scores, grades, and student engagement (Browning & Rigolon, 2019; Demeaux, 2023). In the Philippine context, Project PARKE illustrates how subject-specific academic parks integrated into school grounds foster deeper subject mastery, critical thinking, and collaborative learning while strengthening parental and community involvement (Entapa et al., 2023).

This body of research underscores the critical role of educational facilities in shaping student outcomes. However, significant gaps remain, particularly the lack of localized studies in provincial contexts such as Samar where distinct socioeconomic and infrastructural realities may influence facility functionality and impact. The limited exploration of learner and teacher perspectives on perceived benefits, and the absence of holistic analyses examining multiple facility types within a single district, further justify the need for this research. Consequently, the present study is warranted as it situates the inquiry within Sto. Niño District, generating context-specific evidence on the functionality of diverse facilities and their perceived influence on academic performance.

3. Methodology

A. Research Design

This study employed a descriptive–causal comparative research design. According to Creswell and Creswell (2018), a causal-comparative design, also known as ex post facto research, is a quantitative approach that seeks to determine possible cause-and-effect relationships among variables by comparing groups that differ on a particular characteristic or outcome. It does not manipulate variables but rather observes existing differences to identify potential associations. When combined with descriptive elements, this design enables the systematic profiling of respondents alongside an in-depth analysis of group differences. This design was highly appropriate for the present study as it aimed to describe the learners' profiles and the functional state of school facilities, while also examining whether differences in facility functionality significantly impact the learners' academic performance.

B. Respondents and Sampling Procedure

The respondents of the study were public high school learners enrolled in Grades 7 to 12 from five (5) public secondary schools in Sto. Niño District, Schools Division of Samar, during the School Year 2025–2026. The study employed cluster random sampling, a probability technique where the population is divided into naturally occurring clusters (in this case, the five schools), and samples are drawn proportionally to represent the broader population accurately (Creswell & Creswell, 2018). Table 1 presents the distribution of the 290 selected respondents based on the population size of each participating school.

C. Research Locale

The study was conducted in Sto. Niño District, chosen specifically for its diverse educational and infrastructural landscape. The district's literacy profile indicates a substantial number of students remaining at the frustration reading level, while skill-based and performance-oriented subjects (such as MAPEH and TLE) generally record higher Mean Percentage Scores (MPS) than text-heavy analytical subjects like Science and English. Infrastructurally, the schools present stark disparities.

D. Research Instrumentation

The primary data collection tool was a researcher-made survey questionnaire divided into three parts. Part I gathered the demographic and academic profile of the learners (age, gender, grade level, and general academic performance). Part II measured the perceived level of functionality of educational facilities across four dimensions—food and sanitation, science laboratories, ICT/TLE rooms, and academic parks—using a five-point Likert scale ranging from 5 (Very Functional) to 1 (Not Functional). Part III evaluated the perceived impact of these specific facilities on academic performance, utilizing a parallel five-point Likert scale ranging from 5 (Very High Impact) to 1 (No Impact).

E. Validation and Reliability of Instrument

Content validity was rigorously established through an evaluation by a panel of seven (7) subject matter experts with at least 10 years of experience in public education, facilities management, and learner assessment. An Item-Content Validity Index (I-CVI) threshold of 0.80 was applied to ensure the relevance and clarity of all included items. Subsequently, a pilot test was conducted among 30 non-participating learners from the adjacent Almagro District. As shown in Table 2, the instrument demonstrated acceptable to good internal consistency, with Cronbach's alpha coefficients comfortably exceeding the 0.70 acceptability threshold for all dimensions.

F. Data Gathering Procedure

Formal administrative protocols were strictly observed prior to data collection. Endorsement and approval were sequentially secured from the Schools Division Superintendent, the District In-Charge, and the respective School Heads. Following this, parental consent was obtained for minor respondents. The researcher personally administered the survey questionnaires to the selected learners, providing a clear orientation on the study's purpose, ensuring confidentiality, and guiding the respondents on proper completion to maintain high data integrity.

Table 1

Schools	Population (N)	Sample (n)	Percentage (%)
Baras National High School	170	42	14.49
Cabunga-an Integrated Scho	128	32	11.03
Sto. Niño National High School	548	135	46.55
Sevilla Integrated School	197	49	16.90
Villahermosa National High School	130	32	11.03
Total	**1,173**	**290**	**100.00**

Table 2

Dimensions	No. of Items	Cronbach's Alpha	Internal Consistency
Level of Functionality of Educational Facilities			
Food and Sanitation Facilities	10	0.733	Acceptable
Science Laboratory Facilities	10	0.773	Acceptable
ICT and TLE-Related Facilities	10	0.703	Acceptable
Academic Parks	10	0.844	Good
Perceived Impact of Educational Facilities			
Food and Sanitation Facilities	9	0.724	Acceptable
Science Laboratory Facilities	10	0.842	Good
ICT and TLE-Related Facilities	10	0.753	Acceptable
Academic Parks	10	0.830	Good

Table 3

Dimensions	Kolmogorov-Smirnov Statistic	df	Sig.
Level of Functionality of Educational Facilities			
A. Food and Sanitation Facilities	0.193	289	0.000
B. Science Laboratory Facilities	0.254	289	0.000
C. ICT and TLE-Related Facilities	0.159	289	0.000
D. Academic Parks	0.173	289	0.000
Perceived Impact of the Educational Facilities			
A. Food and Sanitation Facilities	0.189	289	0.000
B. Science Laboratory Facilities	0.264	289	0.000
C. ICT and TLE-Related Facilities	0.131	289	0.000
D. Academic Parks	0.190	289	0.000

G. Data Analysis

The collected data first underwent a Kolmogorov–Smirnov test to check for normal distribution. As detailed in Table 3, all computed significance values (p = 0.000) fell below the 0.05 threshold, indicating a violation of the normality assumption. Consequently, this justified the use of nonparametric statistical techniques for inferential analysis.

Descriptive statistics, including frequencies, percentages, means, and standard deviations, were utilized to analyze the learners' profiles and interpret the Likert scale responses regarding facility functionality and perceived impact. For hypothesis testing, the Kruskal–Wallis H-test was employed to determine if significant differences existed among learner groups. Post hoc pairwise comparisons were subsequently conducted for variables that exhibited significant variance. All inferential tests were conducted at a 0.05 level of significance.

4. Presentation, Interpretation, Analysis of Data

A. Profile of the Public High School Learners

Table 4

Profile	Frequency (f)	Percentage (%)
Age (Mean=14.93; SD=2.52)		
12-14 yrs. old (Early Adolescence)	145	50.0
15-17 yrs. old (Middle Adolescence)	82	28.3
18-20 yrs. old (Late Adolescence)	63	21.7
Gender		
Female	87	30.0
Male	157	54.1
LGBTQIA+	46	15.9
Grade Level		
Grades 7-8 (Lower High School)	119	41.0
Grades 9-10 (Middle High School)	73	25.2
Grades 11-12 (Upper High School)	98	33.8
General Academic Performance (Mean=91.10; SD=2.54)		
85-89 (Satisfactory)	91	31.4
90-94 (Very Satisfactory)	166	57.2
95-100 (Outstanding)	33	11.4

Table 4 presents the frequency and percentage distribution of the public high school learners in Sto. Niño District.

The data reveals that half of the respondents (50.0%) are in early adolescence (12–14 years old), while the majority (54.1%) are male. In terms of academic standing, the largest proportion (57.2%) achieved a "Very Satisfactory" general performance.

This implies that perceptions of facility functionality and impact are interpreted through the lens of younger, academically high-performing students. Agreeing to this result is the research of Eccles and Roeser (2017), which emphasizes that early adolescence is a developmental stage marked by high responsiveness to school environmental supports.

B. Level of Functionality of Educational Facilities

Table 5 summarizes the assessment of facility functionality across the four specific domains.

Table 5

Dimensions	Mean	SD	Interpretation
A. Food and Sanitation Facilities	4.75	0.208	Very Functional
B. Science Laboratory Facilities	4.78	0.250	Very Functional
C. ICT and TLE-related Facilities	4.65	0.254	Very Functional
D. Academic Parks	4.72	0.263	Very Functional
Overall	**4.72**	**0.139**	**Very Functional**

All dimensions were rated as "Very Functional" (Overall Mean = 4.72). Science Laboratory facilities obtained the highest rating (M = 4.78), whereas ICT and TLE-related facilities recorded the relatively lowest mean (M = 4.65) among the domains.

This implies that while basic infrastructure is operational, technological resources may not yet be fully maximized for innovation-driven learning compared to science labs. This finding is reinforced by the OECD (2019), which noted that even where digital access is high, disparities often exist in using technology for higher-order learning tasks.

C. Perceived Impact of Educational Facilities on Academic Performance

Table 6

Dimensions	Mean	SD	Interpretation
A. Food and Sanitation Facilities	4.76	0.210	Very High Impact
B. Science Laboratory Facilities	4.79	0.258	Very High Impact
C. ICT and TLE-related Facilities	4.64	0.244	Very High Impact
D. Academic Parks	4.73	0.273	Very High Impact
Overall	**4.73**	**0.148**	**Very High Impact**

Table 6 presents the summary of how much these facilities influence academic outcomes.

Learners perceive all four dimensions as having a "Very High Impact" on performance. Science Laboratories are perceived as the strongest contributors to achievement (M = 4.79).

This suggests that hands-on, experiential learning environments are viewed as critical drivers of conceptual mastery. Consistent with the literature, Sasson et al. (2018) found that inquiry-based environments significantly enhance mastery and performance outcomes compared to traditional classrooms.

D. Test of Difference on the Level of Functionality

Table 7

Profile	N	Mean Rank	H-Test	df	p-value
12-14 yrs. (Early)	145	142.93	6.114*	2	0.047

15-17 yrs. (Middle)	82	162.61
18-20 yrs. (Late)	63	129.14

The study tested for significant differences in functionality assessments using the Kruskal-Wallis H-test. The results showed no statistically significant differences across age ($p = 0.426$), gender ($p = 0.762$), grade level ($p = 0.144$), or academic performance ($p = 0.242$).

This indicates that functionality is perceived consistently across all subgroups. This finding is supported by Maxwell et al. (2020), who argued that well-maintained facilities create uniform learning conditions that reduce variability in students' environmental experiences.

E. Test of Difference on the Perceived Impact

While no significant differences were found across gender or grade level, a statistically significant difference emerged in the perceived impact of ICT/TLE facilities when grouped by age ($p = 0.047$).

Post-hoc results clarify that middle adolescent (15–17 years) perceive ICT/TLE facilities to have a significantly stronger impact than late adolescents. This suggests that developmental stage influences technology valuation. This finding is reinforced by Rideout and Robb (2019), highlighting middle adolescents' heightened engagement with digital tools as they explore academic autonomy.

5. Summary, Conclusions and Recommendations

A. Summary

The primary objective of this study was to assess the level of functionality of educational facilities and their perceived impact on the academic performance of public high school learners in Sto. Niño District, Schools Division of Samar, for the School Year 2025–2026. Utilizing a descriptive–causal comparative research design, the study gathered data from 290 proportionally selected respondents across five public secondary schools. The assessment focused on four major facility domains: food and sanitation, science laboratories, ICT and TLE-related facilities, and academic parks.

The findings revealed that the typical respondent is in early adolescence with a "Very Satisfactory" academic standing. In terms of functionality, all educational facilities were rated as "Very Functional," with science laboratories obtaining the highest mean ($M = 4.78$), while ICT and TLE-related facilities recorded the relatively lowest mean ($M = 4.65$). Similarly, learners perceived all facilities as having a "Very High Impact" on their academic performance, with science laboratories again emerging as the strongest perceived contributor ($M = 4.79$). Inferential analysis showed no significant differences in functionality assessments across profile variables; however, a significant difference was identified in the perceived impact of ICT/TLE facilities, where middle adolescents perceived a significantly stronger impact than late adolescents.

B. Conclusions

Based on the findings of the study, the following conclusions were drawn:

1. Perceptions of educational facilities in the district are largely shaped by younger, academically high-performing learners, suggesting that the results reflect the experiences of students who are actively engaged with their learning environment.
2. Public high schools in Sto. Niño District maintain a high standard of facility functionality, particularly in science laboratories, which fosters strong learner confidence in the availability and safety of instructional spaces.
3. While ICT and TLE-related facilities are operational and accessible, they are currently the least maximized domain for innovation and project-based learning compared to other specialized school spaces.
4. Educational facilities are perceived as transformative tools rather than just physical structures, with experiential environments like laboratories and academic parks being viewed as the primary drivers of comprehension and motivation.
5. Perceptions of facility functionality are stable and equitable across the district, as age, gender, grade level, and academic standing do not significantly influence how students assess the quality of their school environment.
6. Developmental stage plays a critical role in how technology is valued, as evidenced by middle adolescents perceiving a significantly higher academic impact from ICT and TLE facilities compared to older learners.

C. Recommendations

Considering the findings and conclusions, the following recommendations are offered:

1. School administrators and the Schools Division Office should prioritize the instructional upgrading of ICT and TLE-related facilities through innovation-driven teacher training to move beyond basic access toward transformative pedagogical integration.
2. Teachers should design authentic, performance-based ICT and TLE activities that specifically target the developmental needs of different adolescent stages to ensure equitable academic impact across all age groups.
3. School heads should sustain the high functionality and standardized maintenance protocols for science laboratories and academic parks, as these are viewed by learners as the most impactful environments for academic success.
4. Future research should consider incorporating the perspectives of teachers and school administrators to provide a more holistic assessment of facility management challenges and successes.

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