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FACILITIES AND LEARNING RESOURCES: ITS INFLUENCE IN THE ACADEMIC PERFORMANCE OF LEARNERS OF A SELECT LOCAL UNIVERSITY: BASIS FOR RECOMMENDATION

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ABSTRACT

University facilities and learning resources are widely regarded as supports for student learning, yet their relationship with academic performance in local university settings needs continuing assessment. This study examined the accessibility and usefulness of university facilities (classrooms, libraries, and study areas) and learning resources (books and printed learning materials, instructional materials, online resources, and digital equipment), and their relationship with the academic performance of students at the University of Caloocan City – North, Congress Campus, based on their latest General Weighted Average (GWA). A quantitative descriptive-correlational design was used. The respondents were 100 fourth-year Bachelor of Public Administration students enrolled in Academic Year 2026–

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2027, selected through purposive and stratified sampling. Data were gathered with an expert-validated, researcher-made Likert-scale questionnaire administered through Google Forms and analyzed using weighted mean, frequency, percentage, ranking, and Spearman's rank correlation coefficient ($\alpha = 0.05$). Respondents agreed or strongly agreed that the facilities and learning resources were accessible and useful. Composite means were highest for libraries (3.54, Strongly Agree) and the IT Room (3.46, Strongly Agree), followed by classrooms (3.22), instructional materials (3.25), online resources (3.13), books and printed materials (3.07), and digital equipment (2.99), all interpreted as Agree. Campus internet reliability (2.80) and classroom learning tools (2.86) received the lowest indicator ratings. The largest group of respondents (34%) had a GWA of 1.51–1.75. A moderate positive and significant relationship was found between respondents' assessments of accessibility and usefulness (Spearman's rho = 0.4493, $p < .001$), whereas the relationship between these assessments and academic performance was not statistically significant (rho = −0.500, $p = 0.6214$). The most frequently reported challenges were limited availability of facilities ($f = 61$) and limited access to computers or the internet ($f = 59$). Students generally view the university's facilities and learning resources as accessible and useful, and those who find them more accessible also find them more useful; however, these perceptions were not significantly related to GWA in this sample. The study recommends improving the availability of study spaces, strengthening internet connectivity, providing adequate and functional digital equipment, and maintaining and upgrading existing facilities and learning resources as a basis for improving the university's learning environment.

Keywords: *facilities; learning resources; accessibility; usefulness; academic performance; General Weighted Average; public administration; Philippines*

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INTRODUCTION

Background of the Study

University facilities and learning resources are essential components of an effective learning environment. Educational facilities include classrooms, libraries, and study areas, while learning resources refer to textbooks and other printed references, instructional materials, digital platforms, and internet access. When these facilities and resources are adequate, accessible, and well maintained, they give students opportunities to engage actively in learning, to collaborate with peers, and to complete academic tasks efficiently. In higher education, where students are expected to develop knowledge, critical thinking skills, and academic competence, the availability and accessibility of these elements significantly influence students' learning experience and academic performance.

Educational research highlights the strong relationship between learning environments and student achievement. Institutions that provide adequate and well-maintained facilities and accessible resources create conditions that support student engagement, participation, and academic success (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2022). Quality infrastructure, sufficient learning materials, and technological resources also help students understand lessons more effectively, conduct research, complete academic tasks, and develop important academic skills. Students with access to adequate and well-maintained facilities tend to perform better academically: conducive classrooms, functional libraries, and reliable technology enhance focus and productivity, while inadequate resources may create barriers to learning and reduce motivation (Organization for Economic Co-operation and Development [OECD], 2023).

The increasing integration of technology in education further highlights the importance of learning resources. Digital tools, online platforms, and reliable internet connectivity allow students to access information, collaborate with peers, and develop essential research and analytical skills. These resources contribute to improved learning outcomes and support independent learning (World Bank, 2024).

Academic performance reflects how well students achieve their educational goals, demonstrate competence, and complete academic requirements through examinations, projects, and other requirements. It is influenced by several factors, including motivation, teaching strategies, and the learning environment, with facilities and resources being key contributors (OECD, 2023). In higher education and basic education alike, academic performance is assessed through various school assessments and examinations and is commonly measured by the General Weighted Average (GWA). It serves as the primary gauge of a student's cognitive growth, subject mastery, and overall scholastic achievement, and standardized numerical indicators such as the Grade Point Average (GPA) and the GWA are recognized as fundamental quantitative measures of educational output.

According to Zaragosa and Wenceslao (2026), the GWA offers a consolidated summary of a student's overall performance over an academic period, considering course credit weights and final grades earned; it therefore provides a standardized variable for evaluating the direct impact of institutional resources, physical infrastructure, and learning environments on student success. The role of campus facilities, educational technology, and learning resources in driving academic success is also increasingly recognized through predictive modeling and learning analytics. Christou et al. (2023) highlighted that evaluating students' performance trends through data analytics enables institutions to assess faculty impact and optimize course delivery strategies; by examining how students engage with available instructional resources, institutions can refine teaching methodologies to improve overall grade metrics such as the GWA. Similarly, Waheed et al. (2020) demonstrated that student engagement data—encompassing the use of institutional learning systems, facilities, and study environments—serve as a primary predictor of academic performance, providing a measurable foundation for forecasting outcomes such as the GWA. Together, these studies indicate that adequate facilities and learning resources enhance student engagement and instructional quality, establishing the GWA as a crucial metric for evaluating institutional success and academic performance.

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In the Philippine context, higher education institutions continue to improve their facilities and resources to provide quality education. However, challenges such as limited infrastructure, overcrowded classrooms, and restricted access to learning materials persist. These issues affect students' academic experiences and highlight the need for continuous evaluation and improvement of the educational environment.

The University of Caloocan City – North, Congress Campus serves a diverse student population that relies on available facilities and learning resources to meet academic requirements. As the institution continues to grow, it is important to assess how these facilities and resources influence students' academic performance. Understanding this relationship can help identify areas for improvement and support the development of more effective learning environments.

Review of Related Literature and Studies

This section discusses the literature and studies that show the relevance of the present study. It is organized around the university facilities (classrooms, libraries, and study areas), the learning resources (books and printed learning materials, instructional materials, online resources, and digital equipment), and academic performance. A synthesis of the reviewed studies follows, together with the theoretical and conceptual frameworks that served as the springboard of the study.

Facilities

Classrooms

Rosario (2026) examined the relationship between classroom conditions and learners' reading motivation among Grade 10 students in a public secondary school in Davao de Oro, Philippines, during the 2023–2024 school year. The study used a descriptive-correlational research design involving 90 randomly selected learners who responded to a validated, self-made Likert-scale questionnaire. It assessed classroom conditions in terms of facilities, equipment, and safety and determined their relationship with students' motivation to engage in reading activities. The learners perceived their classroom conditions as excellent, indicating a conducive setting for learning, and positive classroom conditions were strongly related to higher reading motivation, particularly students' enjoyment of and willingness to participate in reading tasks. The study emphasized that well-equipped, safe, and comfortable classrooms can encourage greater student motivation and engagement. It is relevant to the present research because it demonstrates how the quality and condition of classroom facilities can influence learning behavior and engagement, and it supports the idea that a conducive and adequately equipped learning environment may contribute to better educational experiences and, consequently, better academic performance.

Gloria, Pelayo, and Castro (2025) investigated the relationship between university infrastructure and student satisfaction at Bulacan State University using a mixed-methods approach involving more than 1,600 undergraduate students from 13 colleges. The quality of campus infrastructure—classrooms, libraries, learning resources, information technology services, health facilities, and recreational spaces—significantly influenced students' academic experiences and overall satisfaction. Students expressed high satisfaction with library cleanliness, student support services, and health facilities, but identified unreliable Wi-Fi connectivity, inadequate classroom ventilation, overcrowded classrooms, limited study spaces, and insufficient learning facilities as areas requiring improvement. The researchers emphasized that well-maintained classrooms, accessible learning resources, reliable digital infrastructure, and conducive learning environments enhance student engagement, support academic performance, and promote overall well-being, underscoring the importance of continuous investment in educational facilities and campus infrastructure.

Hanaysha et al. (2023) investigated how classroom environment, teacher competency, information and communication technology (ICT) resources, and university facilities influence student engagement and academic performance among university students in the United Arab Emirates. Using survey data from 314 higher education students and structural equation modeling (AMOS), they found that all four factors significantly and positively affected both student engagement and academic performance. Student engagement served as a mediating variable,

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indicating that quality learning environments and adequate institutional resources improve academic performance by encouraging students to participate more actively in classroom activities. The study emphasized that universities should invest in modern classrooms, reliable ICT facilities, libraries, study spaces, and competent faculty, and it supports the present study by demonstrating that classroom facilities and learning resources are essential factors in students' academic performance and overall educational experience. Ali et al. (2023) likewise examined the impact of classroom environment, teacher competency, ICT resources, and university facilities on academic performance and student engagement in higher education institutions; classroom environment and university facilities were significant predictors of both outcomes, and student engagement mediated the relationship between these factors and academic performance.

Brink et al. (2021) conducted a systematic literature review of 21 high-quality studies on how classroom indoor environmental conditions affect the academic achievement of students and teachers in higher education, focusing on indoor air quality, thermal comfort, acoustics, and lighting. A well-maintained indoor environment positively influenced the quality of learning and students' short-term academic performance, and different learning activities required varying environmental conditions, suggesting that flexible and well-designed classrooms better support diverse teaching and learning needs. Although evidence on long-term academic performance and teaching quality remained limited, the authors concluded that improving classroom environmental conditions can enhance both student learning experiences and teacher performance.

Wang, Wang, and Dong (2023) conducted a meta-analysis of the effects of smart classrooms on students' academic performance in higher education across universities in different countries. Smart classrooms significantly improved learning engagement, collaboration, and academic achievement: interactive technologies, digital learning resources, and flexible classroom layouts enabled students to participate more actively in discussions and practical activities. The authors emphasized that universities should continue investing in technologically advanced classrooms to support modern teaching methods and improve learning outcomes.

Gao et al. (2021) investigated how classroom seating arrangements affect student engagement using wearable sensors and student surveys. Flexible seating arrangements and proximity among students increased engagement, collaboration, and classroom participation, and students seated in collaborative arrangements showed higher physiological and perceived engagement than those in traditional layouts. Classroom design and furniture arrangement are therefore important components of learning environments that support academic success.

Leijon et al. (2022) conducted a systematic review of 108 peer-reviewed studies published between 2009 and 2019 on the relationship between formal learning spaces and student learning in higher education. Flexible classroom layouts, technology-enhanced environments, and collaborative learning spaces positively influenced engagement, participation, and academic outcomes; classrooms designed for active learning encouraged greater interaction among students and instructors, improved teamwork, and promoted critical thinking and problem-solving. The authors emphasized that learning spaces are not merely physical settings but essential components of the educational process. Taken together, these studies support the present study by highlighting that adequate classroom facilities and learning resources contribute significantly to students' academic performance and overall learning experience.

Libraries

The National Library of the Philippines (2022) outlines the national vision and standards for library development, as well as a strategic framework that defines libraries' core functions, administration guidelines, and priorities for improving infrastructure, collections, and human resources. The plan seeks to ensure that all public libraries in the country run efficiently, consistently, and in accordance with national development goals. It emphasizes the critical role of libraries in providing equal access to information, recognizing knowledge as a fundamental right of all citizens, and establishes service delivery benchmarks that encourage libraries to adapt to changing information needs by incorporating new formats and technologies. It also stresses ongoing monitoring and evaluation as key components of good governance: libraries are encouraged to regularly assess their performance against set goals and report on progress, allowing timely strategic adjustments. This standardized approach aims to reduce service quality

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disparities between urban and rural or underserved communities while promoting inclusivity, and by connecting library services to national priorities such as education, literacy, and economic development, the framework positions libraries as active contributors to nation-building and inclusive growth.

Parmar (2025) investigated how students access and use digital library resources. Digital collections provide faster access to information, but maximizing their benefits depends heavily on effective system management, user training, and stable internet connectivity. Modern library approaches must combine advanced technology with comprehensive user support to address barriers such as limited digital literacy and technical challenges, and the study identified specific impediments to effective use, including complex interface designs, a lack of awareness of available resources, and inconsistent network access. These issues are not only technical but also managerial, calling for user-centered system design, regular information literacy programs, and consistent system maintenance and updates. The findings also show a clear relationship between the level of support from library staff and the extent to which students use digital resources: when librarians actively assist users in navigating digital platforms and assessing information quality, students gain confidence and independence in their research. Technology therefore cannot replace personalized assistance in promoting information literacy and resource utilization.

Qizi (2025) investigated the effects of digital transformation on library resources—how librarians have adopted digitization, e-resources, big data analytics, and artificial intelligence—as libraries transition from physical book repositories to digital information hubs. The discussion addresses the need for robust technological infrastructures, staff training, and innovative service models, as well as issues of digital literacy, user expectations, and intellectual property rights. The findings highlight the critical roles that libraries continue to play in promoting research, education, community engagement, and social equity, and that embracing technological advancements allows libraries to broaden their reach and remain important centers of knowledge and learning in the digital age.

Rosales (2025) assessed the availability, accessibility, and utilization of public library resources and services among 379 users in Western Visayas, Philippines, in a mixed-method study using a validated questionnaire and focus group discussions, with descriptive and inferential statistics (including ANOVA and Pearson's r). Resources were generally available and accessible, while service functionality was rated moderate. Significant differences in utilization were observed based on availability and accessibility, with strong positive correlations among the three variables. The study offers insights for policymakers, librarians, and stakeholders in enhancing inclusive, user-centered library services.

Kabuje and Ntawigaya (2025) emphasized the importance of ongoing research on the impact of academic libraries on student achievement. They advocated that libraries launch their own projects to determine which interventions and services are most effective in engaging first-year undergraduate students, and that they collect and analyze usage and mediation data systematically, at whatever scale is feasible. Such a data-driven approach allows library staff to continually assess the effectiveness of their programs, make informed decisions about resource allocation and service improvement, and tailor strategies to students' needs, which is critical to a responsive and impactful academic library environment.

Scoulas and De Groote (2024) explored the relationships between faculty library use, perceptions of the importance of library resources, and research productivity at a public research university, using a self-reported faculty survey and publication records from a faculty activity reporting system. Faculty perceptions of the importance of library resources bore no significant relationship to research productivity, whereas a notable positive correlation was found between the frequency of use of online journals and databases and research output. Qualitative findings indicated that faculty regarded the library as a dependable provider of necessary resources and highly valued librarians and library services as essential supports for teaching and research.

Isen Mulang (2026) reviewed the role of school libraries as a support for learning, noting that a library is not only a place for storing book collections but also an information center, a learning resource center, and a facility that supports independent learning. Using library research (a review of books, journal articles, and previous findings), the review indicated that school libraries increase reading interest, expand students' access to learning resources,

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support learning activities, and assist teachers and students in obtaining relevant information. Utilization, however, still faces obstacles such as limited access to updated collections, a lack of library management personnel, low student visitation interest, inadequate facilities, and suboptimal integration of libraries into learning activities. Optimizing school libraries therefore requires collection renewal, professional library management, comfortable facilities, school literacy programs, and collaboration among librarians, teachers, and school stakeholders; libraries can serve as effective supports for learning when managed systematically and integrated with students' learning needs.

Study Areas (IT Room)

Beyond direct cognitive effects, appealing study spaces shape a student's psychological relationship with the campus. High-quality physical infrastructure increases learner satisfaction, which strongly correlates with an increase in intrinsic learning motivation (Susanti, 2021). When students feel satisfied with their campus study environments, they develop a stronger sense of institutional belonging and choose to spend more time on campus, an increased time investment that translates into higher academic engagement and improved learning outcomes.

Infrastructure limitations, in contrast, are associated with poorer performance. Anuar et al. (2024), in a mixed-methods study of 2,028 students at Universiti Kebangsaan Malaysia, found significant correlations between infrastructure limitations and academic performance (building closure, $r = 0.77$; facility limitations, $r = 0.64$, $p < .001$), and path analysis showed that infrastructure limitations affect academic performance both directly and through psychological distress. Bolatimi and Bolatimi (2025) found that university facilities such as classrooms, laboratories, libraries, and recreational spaces play a significantly influential role in shaping student satisfaction and academic success: well-equipped and maintained infrastructure serves as a catalyst for learning and engagement, and when students are content with their surroundings, their motivation to engage fully in studies rises, leading to improved academic outcomes. Bueno, Ramli, et al. (2025) highlighted that student satisfaction with services and facilities plays a crucial role in academic success; e-learning systems, teaching aids, library environments, hostels, sports facilities, and transportation infrastructure collectively contributed 51.5% to students' academic achievement.

Dianing and Acedera (2024–2025) studied library design and its influence on student engagement and academic performance. Physical layout and organization, green spaces, and lighting and acoustics significantly influenced student engagement, indicating that libraries shape engagement and academic success not only through resources but also through the quality of their physical environment. Rana (2026), in a study of barriers to disabled students' inclusion in learning and research opportunities in higher education institutions, focused on how educational buildings constructed without considering mobility impairments create physical bottlenecks, and on how navigating unadapted campus facilities forces disabled students through an emotionally taxing and bureaucratic process to secure basic structural accommodations.

Evidence on resource shortages points in the same direction. Despite various educational reforms, many schools, particularly in rural areas, continue to grapple with insufficient resources, resulting in lower academic achievement among students (Philippine Institute for Development Studies, 2022), and the lack of access to both traditional and digital resources limits students' engagement and ability to perform independently, creating a widening gap in educational outcomes (World Bank, 2021). A study at Culian Integrated School explored how insufficient learning resources affect the academic performance of senior high school students by examining the relationship between resource availability and academic outcomes, highlighting the need for comprehensive strategies to enhance resource accessibility and quality. AlQhtani (2025), in a qualitative thematic analysis of interviews with master's students on applying knowledge management to improve the innovation capabilities of graduate students engaged in scientific research, identified components required for developing innovative skills: an innovative learning environment, cutting-edge tactics and digital tools in instruction, learning communities, industry partnerships, international cooperation, and the use of knowledge to advance society. Its results provide university administrators with direction for plans that encourage research-driven innovation in the context of the world's transition to a knowledge-based economy.

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Learning Resources

Books and Printed Learning Materials (Library)

Abubakar (2023) assessed the availability and accessibility of information resources for Pharmaceutical Science students at the University of Jos against a backdrop of declining academic performance and low reading habits among university students. Using a survey design, a sample of 55 students was drawn from a population of 549 undergraduates and given a structured, closed-ended questionnaire tested in a pilot study; data were analyzed using frequency distributions, percentages, and mean scores. Most information resources in the university library were available, though accessibility varied from moderate to high, and nearly all resources were considered useful, highlighting their perceived value in supporting students' academic pursuits. The study recommended that the library continue to maintain and improve the availability and accessibility of existing resources and acquire additional ones, given their significant usefulness for learning and research.

Alaban and Singh (2024) emphasized the importance of increasing the availability of accessibility tools in college libraries as a vital step toward supporting students with disabilities. Ensuring that all students have equal access to educational materials and can fully participate in academic activities is essential for an inclusive learning environment. Their review examines the state of accessibility devices in college libraries, the challenges faced by students with hearing, visual, and mobility impairments, and innovative solutions such as screen readers, braille displays, speech-to-text software, accessible workspaces, open e-books, and online libraries, evaluated through user feedback and underscoring the importance of user-centered design.

Deva Amirtharaj et al. (2023) conducted a descriptive cross-sectional survey of 607 students at Sultan Qaboos University, Oman, on learning preferences between printed books and e-books (99% undergraduates, 48.9% in second year, and 95.4% aged 17–26), and found that 74.6% preferred e-books for their portability and 80.6% spent more than an hour reading from them, while 66.7% favored printed books for ease of studying and 67.9% found making notes easier with physical copies; 54% reported difficulty studying from digital copies. Students tend to favor e-books for convenience and extended reading, while printed books remain popular for comfort and note-taking, which is valuable information for stakeholders developing modernized educational strategies as hybrid teaching becomes more prevalent.

Alhammad and Ku (2019) qualitatively explored the experiences of twenty graduate students from diverse disciplines at a midsize U.S. university with digital learning materials, particularly e-books, including their perceptions, the factors influencing preferences for e-books versus printed books, and the perceived impact on comprehension, retention, engagement, and academic performance. Students generally preferred e-books for portability, ease of access, and the ability to search and highlight content, but favored printed books for deep reading and exam preparation because their tactile nature and familiarity facilitated focus and comprehension. Multimedia features in e-books positively affected engagement and understanding. Digital texts therefore offer significant accessibility and convenience for specific learning activities, while print remains vital for in-depth study, illustrating the complex relationship between resource accessibility and perceived usefulness in higher education.

Budnyk et al. (2021) used conceptual and comparative research, as well as diagnostic and statistical techniques, to examine how students in Ukrainian universities use printed and electronic publications. While students recognized the practical benefits of e-books—portability, accessibility, and ease of updating—more than 70% continued to prefer printed books and textbooks for studying because these allow greater concentration on complex scientific information and improve critical comprehension. The study emphasized combining electronic and printed resources effectively, a balanced approach that can maximize educational efficiency, and developing students' digital competencies, such as evaluating the reliability of digital information and using multimedia tools for personal, academic, professional, and social purposes.

Mayembe and Nsabata (2023) investigated print-based media learning—textbooks, workbooks, booklets, and other printed instructional materials—examining its history, characteristics, types, and benefits and drawbacks, and the

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interdependence of teaching methods and learning media. When selecting print media, educators must consider learning objectives, the nature of academic tasks, and learner characteristics to create a conducive learning environment that promotes understanding, engagement, and retention. Despite the growing popularity of digital resources, print media remains relevant, particularly where access to technology is limited or inconsistent, and well-organized, carefully chosen print materials support effective teaching. The study also considered how students perceive and use print-based resources, with the goal of determining their accessibility and usefulness in promoting academic success.

Ullah and Usman (2023) explored the pivotal role of libraries in ensuring quality education in higher education institutions. Libraries provide access to a wide range of information, facilitate research, promote literacy and lifelong learning, and foster a conducive learning environment by offering books, journals, databases, digital materials, quiet study spaces, collaborative areas, and technological access. Using subject-specific databases (Google Scholar, Web of Science, and Science Direct) and keywords such as “Role of Libraries” and “Quality Education,” the study aimed to help librarians and information professionals in Pakistani university libraries enhance their roles and skills and strengthen the quality of education through effective resource utilization and service delivery.

Shoaib et al. (2021) examined the extent to which academic libraries are accessible and useful to students, in a cross-sectional survey at the Hafiz Hayat Campus of the University of Gujrat, Pakistan. Of 131 BS students from the Departments of Sociology and Psychology who were targeted, 120 participated in a structured questionnaire covering demographic information, the role of the academic library, and learning outcomes; descriptive statistics, Pearson correlation, and multiple regression were used. The role of the academic library had a significant and positive effect on students’ learning, and study spaces and library catalog facilities in particular had a favorable impact on learning outcomes. Accessible and well-equipped academic libraries thus play a crucial role in supporting student learning, emphasizing the importance of resource availability and usability.

Instructional Materials

Instructional materials, frequently used interchangeably with “teaching aids,” serve as alternative channels of communication that allow educators to present concepts more vividly. Classroom instruction has historically relied on traditional, verbal-centric “talk-chalk” methods, whereas modern educational frameworks view instructional materials as media of exchange that facilitate a dynamic, two-way communication process between teacher (source) and student (receiver). According to Nasruddin et al. (2022), instructional materials combine *teaching*—the process of creating and maintaining an effective learning environment—and *material*—what supports the learning process inside and outside the classroom. Instructional materials function as “silent co-teachers” that guide a student’s cognitive pathway even when the teacher is occupied; if they are the essential building blocks of a lesson and teaching is its architecture, both must work together to create a dynamic, functional environment where learning can thrive.

Compiling teaching materials requires lecturers to draw from reference books, textbooks, research reports, scientific journals, academic experts, curriculum guides, and the surrounding natural, social, cultural, industrial, and economic environments. Gathering these resources is not enough, however: implementation must adapt to the characteristics of the students and the context inside and outside the classroom, because institutional learning objectives are geared toward developing students’ basic potential, the foundation for continued learning at subsequent levels of education.

According to Jan, Ambreen, and Abbas (2024), enhancing both the delivery of educational content and the overall learning process requires the strategic integration of various tools, resources, and technologies. The effectiveness of instructional media is determined by numerous interconnected factors that the media directly or indirectly influences, so educators must carefully evaluate these variables to maximize the impact of media integration.

Cano et al. (2022) emphasized that developing robust teaching pedagogies and innovative, learner-centered techniques—such as technology-based instructional tools—is essential for elevating national scientific literacy, and

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that appropriate technology-based instructional materials were necessary during the COVID-19 pandemic to mitigate unprecedented educational constraints. These digital resources often take the form of computer simulations that can be incorporated into experiential learning frameworks, enabling students to investigate and solve real-world problems through practical experience. Technology-based experiential tools reduce the financial and logistical obstacles to high-impact learning: advanced scientific experiments or exposure to real-world industrial settings can be prohibitively expensive, geographically difficult, or unsafe in traditional settings. Moving these experiences into interactive digital spaces can democratize access to high-quality practical education, so that students, regardless of their school's physical resources, can acquire the competencies and technical literacy the modern workforce requires.

How learning resources are organized and used is determined by the difference between synchronous and asynchronous design. According to Alhazbi and Hasan (2021), a student's ability to self-regulate is a crucial factor in the success of both synchronous and asynchronous online modalities. Developers of materials for remote emergency learning must account for the absence of physical classroom boundaries and direct instructor supervision, which increases the learner's cognitive and organizational load; asynchronous materials such as recorded lectures, modular readings, and self-paced quizzes must therefore be explicitly scaffolded with clear timelines and benchmarks to help students who struggle with time management and intrinsic motivation.

Portana et al. (2021) classified developed instructional materials broadly as primary and secondary aids, and noted that the educator is responsible for evaluating the quality and appropriateness of these aids during use to ensure they align with learning objectives. Properly designed materials do not merely convey content; they guide students to acquire deeper information and a greater appreciation of the topics under consideration. Primary aids, such as core textbooks and foundational outlines, establish the initial mental schema by providing the essential data needed to grasp a basic concept, while secondary aids provide the contextual depth, real-world applications, and alternative perspectives necessary to move learners from rote memorization to genuine critical analysis.

Hamora et al. (2022) reported that the transition to alternative learning modes at Western Philippines University highlighted the critical role of faculty-prepared instructional modules in maintaining teaching-learning continuity during the COVID-19 pandemic. Students generally found the modules acceptable and presentable (overall grand mean of 3.29); the physical features of the materials, such as uniform formatting and layout, and the introductory sections and titles that guided students on what to expect were highly rated. Independent learning, however, remained a challenge, as scores for actual learning from the modules were slightly lower. Students recommended rigorous quality reviews to eliminate errors, extended deadlines for independent tasks, and more concrete, real-world examples within the text.

Bolat and Deneme-Gençoglu (2024) argued that the failure to implement 21st-century skills is largely rooted in systemic institutional deficiencies rather than a lack of teacher capability or student willingness: when educators are constrained by outdated curricula and inadequate physical or digital infrastructure, competencies such as critical thinking, collaboration, and technology literacy are nearly impossible to cultivate. Addressing such systemic challenges requires diverse instructional materials and strategies, particularly through information and communication technology (ICT). ICT-based teaching has increasingly evolved to focus on problem-solving, and by using targeted digital tools to align career-ready practices with 21st-century skills, educators can infuse these competencies into daily lessons and student assessments.

Online Resources (UCC Website)

The integration of online resources in higher education has shifted pedagogy away from traditional, instructor-led lectures toward individualized, student-centered learning environments, in which student autonomy is a critical variable in academic engagement. Azucena et al. (2021) underscored that modern online learning resources provide a flexible and customized framework that repositions the learner at the center of the educational experience, allowing students to select materials that best match their learning preferences. This depends heavily on a student's capacity for self-regulated learning. Pineda and Rabut (2025) demonstrated that e-learning materials offer

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interactive, self-paced alternatives that enhance engagement and long-term knowledge retention; when digital resources let students study ahead and progress at an individualized pace, classroom friction is minimized and proactive learning is fostered, although autonomy also shifts the burden of tracking progress from the institution to the student.

Mobile technologies have also decentralized the physical infrastructure of education, rendering traditional temporal and geographical limitations obsolete. Barrera et al. (2024) documented that the contemporary university demographic relies heavily on smartphones and digital platforms for standard academic reading, and that students view online resources—particularly portable formats such as PDFs—as highly convenient and embedded components of their regular academic activities. Kumara et al. (2026) observed that e-learning tools positively influence academic outcomes precisely because they eliminate structural scheduling bottlenecks: the capacity to retrieve educational materials at any hour democratizes learning and lets students optimize study schedules around competing personal responsibilities.

Reliance on digital access, however, introduces operational challenges, particularly in public higher education. Esponilla et al. (2025), evaluating public institutions in the Philippines, established that information literacy and technical literacy are the strongest predictors of students' academic achievement in online environments. Regular interaction with remote systems refines operational digital skills over time, but the mere presence of digital resources is insufficient: universities must ensure that students possess robust foundational digital literacy; otherwise, disparities in technical competence will prevent full use of accessible learning materials.

The existence of online resources does not automatically translate into higher academic performance; the educational value is mediated by course modalities and individual behavioral engagement. Kapoor et al. (2024) found that web-based resources yield higher instructional efficacy because they give users control over the sequence and duration of content consumption, and that interaction with online supplementary content was significantly more pronounced among students in fully online courses than among those in face-to-face classes. Liu et al. (2024) analyzed how distinct achievement tiers interact with institutional learning management systems and found a clear positive correlation between proactive platform engagement and high academic performance: high-performing students did not merely download files but viewed course files, took online quizzes, and wrote and read discussion forum posts at significantly higher frequencies. Online resources are therefore not passive cures for academic deficiencies; they function as high-yield cognitive tools that require sustained, active, and digitally literate participation.

Digital Equipment (Laboratory and IT Room)

Timotheou et al. (2023) examined the impact of digital technologies on education and the factors that influence digital capacity and transformation. Digital technologies have become essential tools for improving educational processes by providing better access to information, supporting communication, and encouraging collaboration; digital equipment such as computers, ICT infrastructure, and digital learning platforms improves learning environments when properly implemented, but effectiveness depends on institutional support, digital competence, and the availability of adequate technological infrastructure. Higher education institutions should therefore not only provide digital equipment but also develop strategies that promote its effective and meaningful use.

Sum and Oancea (2022) investigated the use of technology in higher education teaching during COVID-19 emergency remote teaching. Universities depended significantly on digital tools and online platforms, which helped instructors deliver lessons and maintain interaction with students, but challenges such as unequal access to digital equipment, limited technological skills, and insufficient institutional support were also identified; the availability of digital equipment must be accompanied by proper training and support. Granić (2022), in a systematic review of educational technology adoption, found that successful integration depends on perceived usefulness, ease of use, digital literacy, and organizational support, and that providing equipment alone does not guarantee adoption because users must also have the skills and confidence to maximize these resources. Colleges should consider both technological availability and user preparedness.

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Valverde-Berrocoso et al. (2022), in a systematic review of educational technology and student performance, found that digital technologies can enhance engagement, participation, and learning experiences when properly integrated into instructional practices, although they described the overall evidence linking educational technology to performance as inconclusive, with large-scale studies showing that frequent classroom ICT use does not necessarily correlate positively with performance; they also noted that computers and technology-based learning resources are more effective when used to support meaningful educational activities rather than simply replace traditional approaches; effectiveness thus depends on how educators design learning activities and how students interact with the technology. Chugh et al. (2023) reviewed the implementation of educational technology in higher education, analyzing technologies, stakeholder perspectives, frameworks, and evaluation methods, and showed that successful implementation requires proper planning, technical support, stakeholder acceptance, and continuous evaluation.

Fernández et al. (2023) explored digital transformation initiatives in higher education through a multivocal literature review, emphasizing that digital transformation involves more than purchasing devices: it requires changes in institutional strategies, infrastructure, processes, and digital capabilities. Digital equipment becomes more valuable when supported by effective policies, technological planning, and a culture that encourages digital innovation. Feng et al. (2025), in a systematic review of key factors influencing educational technology adoption, identified technological factors, user acceptance, institutional readiness, and support systems as important, and concluded that effective adoption requires not only access to digital resources but also proper management, training, and continuous improvement to maximize the benefits of digital learning environments.

Academic Performance

Al Husaini and Shukor (2022), in a review of factors affecting students' academic performance, identified family support, accommodation, and e-learning activity among the critical determinants of student success; accommodation and e-learning activity in particular point to the role of institutional provisions in student outcomes. Alani and Hawas (2021), in a case study of Sohar University in Oman, found that quiet and appropriate university facilities, combined with effective teaching techniques, positively influenced student achievement. Wang and Chen (2025), in a systematic review of factors influencing academic performance across individual, family, school, and social dimensions, concluded that school-related factors such as teacher qualifications, teaching methods, and resource availability are central to student success. Zurainan, Nazir, and Sabri (2021) showed that well-managed classrooms, libraries, hostels, and e-learning resources significantly enhanced student performance, although not all facilities contributed equally, suggesting that management quality is crucial to maximizing the benefits of available resources.

Kumar, Agarwal, and Agarwal (2021) critically reviewed definitions and measures of academic performance, questioning the reliability of the Grade Point Average (GPA) as the sole metric and arguing for a multidimensional evaluation of student success, which is essential when analyzing how facilities and learning resources influence academic outcomes. Tahir and Jan (2024) explored broader influences on scholastic achievement, including parenting style, social media addiction, academic anxiety, motivation, peer relations, and socio-economic status, stressing the importance of balanced learning environments that meet diverse student needs. Bentrim and Henning (2022) examined student sense of belonging in higher education and its implications for persistence, retention, and academic success, arguing that facilities and resources foster inclusion and support, which in turn strengthen engagement and achievement.

Influence of Facilities and Learning Resources on Academic Performance

Alhazmi (2023) studied the impact of university facilities on students' academic achievement from the students' perspectives at Taibah University in Madinah. Using a descriptive correlational design, data were collected from 382 randomly selected male and female students through a questionnaire. The overall level of university facilities was rated high, and students' academic achievement was also high; a positive relationship between facilities and achievement indicated that better facilities contribute to improved academic performance, with no significant differences in the relationship by gender, qualifications, or specialization.

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Jamshed and Khan (2024) investigated the relationship between university type and facilities and students' academic achievement, using a cross-sectional correlational design involving 152 students from public and private universities in Karachi. Institutional type significantly influenced academic performance, with notable differences between public and private institutions, and specific amenities—laboratories, audiovisual aids, first aid services, and transportation—were positively correlated with achievement because they directly support academic tasks and enhance the overall learning experience.

Khalid and Farid (2025) conducted a quantitative study, "Analysis of Academic Facilities and Their Influence on the Academic Performance of Students," involving 385 social science students from four universities in Islamabad. Using survey questionnaires, they assessed students' perceptions of the adequacy and quality of classroom conditions, ICT resources, co-curricular support facilities, and technology-driven instructional tools. Well-maintained classrooms, reliable access to ICT resources, and the integration of technology in teaching significantly contributed to improved engagement and academic performance, and co-curricular opportunities enhanced collaboration, creativity, and critical thinking.

Bautista and Mendoza (2020) examined the relationship between school facilities and academic performance in public institutions and found that well-maintained classrooms, libraries, and laboratories fostered better academic outcomes, enhancing concentration and participation and laying a foundation for understanding similar dynamics in higher education. Garcia, Lim, and Torres (2022) explored the relationship between university facilities and academic performance among college students in public higher education institutions in the Philippines, using a quantitative approach with students from different state universities and examining classroom facilities, library services, and technological infrastructure. They found a significant relationship between the quality of academic facilities and academic performance: students with access to comfortable classrooms, sufficient learning materials, and functional technology reported better learning experiences and outcomes, and the researchers concluded that improving university facilities contributes positively to academic success. This supports the present research on the role of academic facilities in academic performance at the University of Caloocan City – North, Congress Campus.

Synthesis of the Reviewed Literature and Research Gap

The reviewed foreign and local studies consistently show that university facilities and learning resources have a significant influence on students' academic performance. Foreign literature highlights that well-maintained classrooms, libraries, ICT resources, and supportive learning environments contribute to better student engagement, understanding of lessons, and overall academic achievement.

Facilities. Rosario (2026) concluded that safe, well-equipped, and comfortable classrooms strongly enhance students' motivation and engagement. Gloria, Pelayo, and Castro (2025) highlighted infrastructure quality but noted persistent issues such as overcrowding and poor ventilation. Hanaysha et al. (2023) confirmed that classroom environment, ICT resources, and teacher competency positively affect engagement and achievement; Brink et al. (2021) stressed indoor environmental quality, Wang, Wang, and Dong (2023) emphasized smart classrooms, Gao et al. (2021) highlighted seating arrangements, and Leijon et al. (2022) argued that flexible layouts foster teamwork and critical thinking. Libraries remain essential learning hubs: the National Library of the Philippines (2022) sets a national framework for development, while Parmar (2025) explored how digital libraries enhance performance but require proper management and user training. Qizi (2025) discusses digital transformation and the adoption of AI, big data, and e-resources in libraries; Rosales (2025) emphasizes accessibility and utilization in Western Visayas; Kabuje and Ntawigaya (2025) highlight continuous research and data-driven approaches to improve library services; Singh (2022) reinforces that resource quality correlates with outcomes; Abad and Gonzales (2021) confirm that updated collections and qualified staff improve study habits; Scoulas and De Groote (2024) show that frequent use of online library resources, especially journals and databases, boosts research productivity; and Isen Mulang (2026) stresses that libraries are active learning hubs requiring systematic management and integration into learning activities. Study areas influence both psychological well-being and academic outcomes: Susanti (2021) concludes that appealing study spaces increase satisfaction and motivation, Anuar et al. (2024) found that infrastructure

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limitations negatively affect performance, Bolatimi and Bolatimi (2025) suggest that facilities collectively shape satisfaction and success, Bueno, Ramli, et al. (2025) highlight satisfaction with services and facilities, Ali et al. (2023) indicate that engagement mediates the relationship between facilities and performance, Gloria et al. (2025) highlight deficiencies in study spaces and digital services, and Dianing and Acedera (2024–2025) emphasize design elements such as layout, lighting, and green spaces.

Learning resources. Books and printed materials remain indispensable. Abubakar (2023) stresses availability and accessibility; Alaban and Singh (2024) emphasize inclusivity through accessibility tools; Singh (2022) reinforces that quality and organization correlate with outcomes; Dela Cruz and Reyes (2020) highlight accessibility and relevance; and Abad and Gonzales (2021) argue that updated collections improve study habits. Instructional materials are consistently linked to improved teaching and learning: De Guzman and Navarro (2020) concluded that sufficient instructional materials positively affected study habits, Khalid and Farid (2025) suggested continuous investment in modern instructional tools, Ali et al. (2023) found that instructional aids and ICT resources predict engagement, and Bueno, Ramli, et al. (2025) highlighted teaching aids as contributors. Online resources are increasingly recognized as essential: Baro and Ebiagbe (2019) found that digital libraries provide faster access but require management; Troselius and Jönsson (2023) indicated that digital transformation creates opportunities but also challenges; and Reyes and Villanueva (2021) concluded that frequent use of online platforms improves performance. Digital equipment directly influences engagement and achievement: Hanaysha et al. (2023) and Ali et al. (2023) showed that ICT resources and facilities are predictors of performance, Gloria et al. (2025) noted deficiencies in Wi-Fi and digital access, and Wang, Wang, and Dong (2023), Gao et al. (2021), and Leijon et al. (2022) showed that technology-enhanced spaces improve engagement and teamwork.

Academic performance. Academic performance is the ultimate measure of how facilities and resources influence student success. Alhazmi (2023) concluded that adequate facilities contribute to improved achievement, and Jamshed and Khan (2024) suggested that institutional type and amenities significantly affect performance. Khalid and Farid (2025) found that well-maintained classrooms and ICT resources enhance achievement; Garcia, Lim, and Torres (2022) confirmed that comfortable classrooms and functional technology lead to better outcomes; Lasig and Collantes (2022) emphasized that library utilization correlates with higher GPAs; Reyes and Villanueva (2021) highlighted the role of online resources; and Bueno, Ramli, et al. (2025) reinforced that satisfaction with facilities and services contributes significantly to achievement.

Taken together, the literature demonstrates both convergence and divergence. Studies on facilities emphasize adequacy, environment, and design; studies on learning resources highlight accessibility, inclusivity, and modernization; and academic performance integrates these factors as outcomes. Their connectedness lies in how physical spaces and intellectual tools jointly foster engagement and achievement: classrooms and laboratories provide the structural and experiential foundation for learning, libraries and study areas extend opportunities for independent inquiry and collaboration, and books, instructional materials, online resources, and digital equipment supply the intellectual and technological means to access, process, and apply knowledge.

Differences across studies reveal nuanced perspectives on which aspects most strongly influence outcomes. Some scholars stress infrastructure and institutional type, pointing to the adequacy of classrooms, laboratories, and libraries as decisive. Others emphasize utilization and inclusivity, highlighting how accessibility tools, digital platforms, and well-managed resources ensure equitable participation. Still others underscore service quality and modernization, arguing that satisfaction with facilities and the integration of technology are critical in shaping motivation and achievement.

Ultimately, facilities and learning resources are not passive supports but active contributors to student success. They interact: well-designed classrooms and laboratories enhance the effectiveness of instructional materials, accessible libraries and study areas amplify the utility of printed and digital resources, and reliable digital equipment ensures that online platforms can be fully leveraged. Academic performance emerges as the cumulative outcome of these interactions, which underscores the need for continuous investment, strategic management, and inclusive practices

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to ensure equitable and sustainable academic success. These findings provided strong support for the present study, which examined how university facilities and learning resources relate to the academic performance of selected students at the University of Caloocan City – North, Congress Campus.

Despite this body of evidence, several gaps remain. First, much of the reviewed work examines student satisfaction, engagement, or perceptions, often in other countries or at other educational levels, and only some studies relate facilities or resources to a measured academic outcome such as the GWA. Second, the findings are not uniform: reviews of educational technology describe the evidence linking technology to student performance as inconclusive (Valverde-Berrocoso et al., 2022), and the studies that report positive associations (e.g., Alhazmi, 2023; Garcia et al., 2022; Khalid & Farid, 2025) differ in context, measures, and samples. Third, the reviewed studies give little direct attention to how students' ratings of the accessibility of resources relate to their ratings of usefulness, even though the presence of a facility does not by itself ensure that it can be used effectively. Finally, local evidence from public administration students at the University of Caloocan City – North, Congress Campus is needed to inform institutional planning and resource allocation.

The present study addresses these gaps by (a) describing how fourth-year BPA students assess the accessibility and usefulness of seven categories of facilities and learning resources, (b) testing whether the accessibility and usefulness ratings are related to each other, (c) testing whether these ratings are related to students' latest GWA, and (d) identifying the challenges students encounter, as a basis for recommendations.

Theoretical Framework

This study was anchored on several interrelated theories that explain how institutional resources influence student learning outcomes. At its core, the research drew on the input-environment-outcome (I-E-O) model, which conceptualizes education as a system in which institutional inputs—such as facilities and learning resources—are processed through student engagement and instructional delivery, resulting in academic performance. The model provides a structural lens for evaluating how the quality and utilization of university facilities contribute to student success.

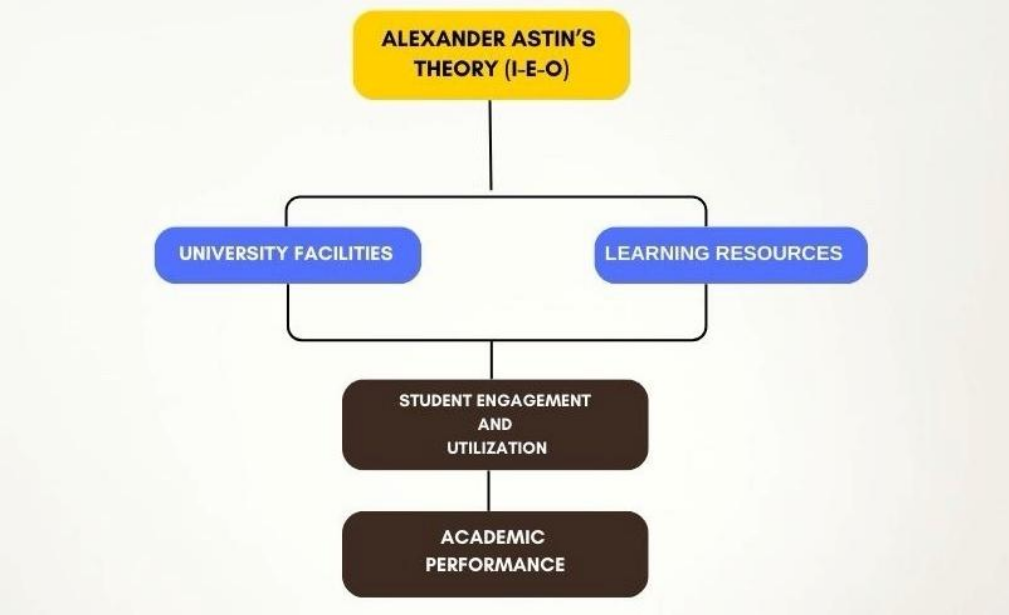
The study is grounded in Astin's Theory of Student Involvement (1984) and supported by Ecological Systems Theory by Urie Bronfenbrenner. Astin's theory states that students' academic performance improves when they actively engage with their learning environment and available institutional resources, and that learning outcomes are directly related to the quality and quantity of student involvement in academic activities. Ecological Systems Theory explains that students' development and performance are influenced by their surrounding environments, including institutional structures such as university facilities and learning resources.

Anchored on these theories, the study assumes that university facilities and learning resources serve as environmental and institutional factors that encourage or limit students' involvement in learning. Adequate classrooms, libraries, laboratories, and technological resources create a supportive academic environment that promotes active participation, motivation, and effective study habits. As students become increasingly involved in their academic tasks through the use of these facilities and resources, their academic performance improves. The academic outcomes then provide feedback to the university, guiding future improvements in facilities and learning resources.

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Figure 1. Theoretical framework of the study, based on Alexander Astin's Input-Environment-Outcome (I-E-O) theory



Conceptual Framework

This study focuses on determining how university facilities and learning resources relate to the academic performance of selected students at the University of Caloocan City – North, Congress Campus. The conceptual framework is anchored on the Input-Process-Output (IPO) model, which illustrates how inputs are transformed through a process to produce a desired output (Figure 2).

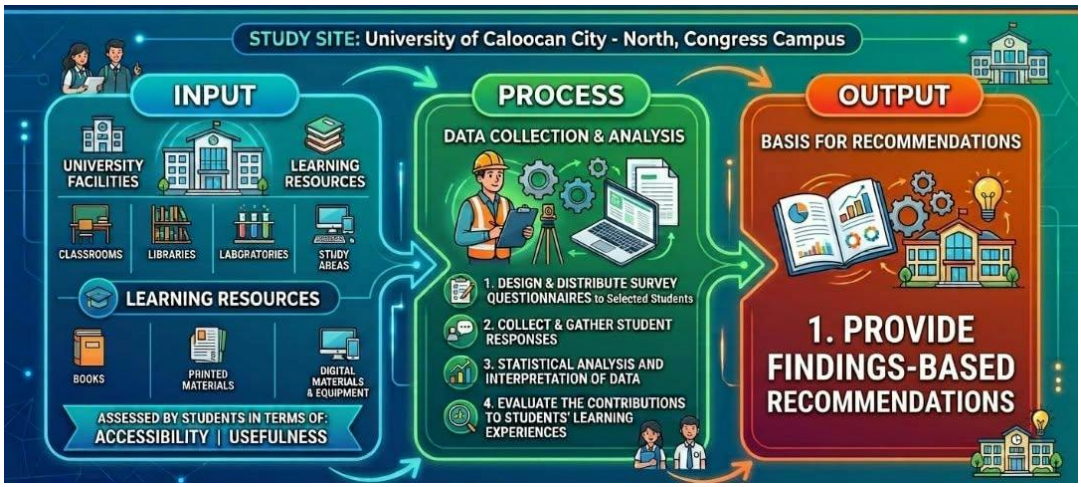
The input consists of university facilities and learning resources. University facilities include classrooms, libraries, laboratories, and study areas, while learning resources consist of projectors, television units, books, printed materials, and digital materials and equipment. These factors are essential in creating a conducive learning environment for students and were assessed in terms of their accessibility and usefulness. The process involves the use of a survey questionnaire to gather data from selected students; the collected data are analyzed and interpreted to determine the degree to which the identified facilities and learning resources are accessible and useful, and how they contribute to students' learning experiences. The output of the study is the basis for recommendations—a school improvement plan grounded in the findings—that aims to enhance the accessibility, availability, and effectiveness of university facilities and learning resources.

The framework demonstrates that, through a systematic process of data collection and analysis, the identified inputs can be evaluated to produce an output that supports institutional improvement and better learning outcomes for students.

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Figure 2. Conceptual paradigm of the study (Input-Process-Output)



Significance of the Study

This study sought to determine how university facilities and learning resources can help students of the University of Caloocan City, who were under academic stress during the school year 2026–2027, establish positive academic performance. It examined the positive effects of accessible learning facilities and resources, such as classrooms and libraries, on students under the stress of their academic tasks, and the negative effects of their absence: restricted access to classrooms, libraries, and technology may prevent students from accomplishing their academic responsibilities on time, increase stress and frustration, and lessen concentration, motivation, and engagement. The findings are expected to benefit the following stakeholders:

- **Students.** The study will help students become more aware of how university facilities and learning resources contribute to their academic performance and encourage them to maximize the use of available resources to enhance learning outcomes.
- **University Administration.** The results will serve as a basis for institutional planning, policy formulation, and resource allocation. Identifying gaps and challenges in the accessibility and usefulness of facilities will guide administrators in prioritizing improvements that directly affect students' academic success.
- **Faculty Members.** The research provides insights into how learning environments and resources support teaching and learning, and will assist faculty in designing instructional strategies that make effective use of available facilities and resources.
- **Researchers.** The study contributes to the development of the researchers' skills in data gathering, analysis, and interpretation, deepens their understanding of the relationship between educational resources and academic performance, and enhances their critical thinking, academic writing, and methodological competence.
- **Future Researchers.** The study can serve as a reference for future research on learning environments, educational facilities, and academic performance, and as a foundation for comparative studies in other educational institutions.

Statement of the Problem and Objectives

This study aimed to determine the influence of university facilities and learning resources on the academic performance of students at the University of Caloocan City – North. Specifically, it sought to answer the following questions:

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1. What is the level of accessibility and usefulness of the university facilities as assessed by the student-respondents, particularly in terms of (1.1) classrooms, (1.2) libraries, and (1.3) study areas (IT Room)?
2. What is the level of accessibility and usefulness of the university learning resources as assessed by the student-respondents, particularly in terms of (2.1) books and printed learning materials (library), (2.2) instructional materials, (2.3) online resources (UCC website), and (2.4) digital equipment (laboratory and IT Room)?
3. What is the academic performance of the student-respondents based on their latest General Weighted Average (GWA)?
4. Is there a significant relationship between the respondents' assessments of the level of accessibility and usefulness of the university facilities and learning resources?
5. Is there a significant relationship between the respondents' assessments of the level of accessibility and usefulness of the university facilities and learning resources and their academic performance?
6. What challenges do the student-respondents encounter in accessing and using the university facilities and learning resources?
7. Based on the findings of the study, what recommendations may be proposed to address the challenges encountered by the student-respondents?

Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

H01: There is no significant relationship between the respondents' assessments of the level of accessibility and usefulness of the university facilities and learning resources.

H02: There is no significant relationship between the respondents' assessments of the level of accessibility and usefulness of the university facilities and learning resources and their academic performance based on the latest General Weighted Average (GWA).

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METHODS

Research Design

The study adopted a quantitative descriptive-correlational research design, which is well suited to examining relationships between variables in an academic setting. Quantitative research emphasizes numerical data and statistical tools to provide objective results; here, it was used to measure how the accessibility and usefulness of university facilities and learning resources relate to students' academic performance. The design made it possible to collect measurable data from a large group of respondents and to analyze them systematically.

The descriptive aspect presented a clear picture of the current state of facilities and learning resources at the University of Caloocan City, such as how often students use libraries or digital equipment and whether these resources are perceived as accessible and useful. It did not attempt to alter or manipulate the environment but captured the conditions students actually experience; according to Adi Bhat (2020), descriptive research is effective in outlining characteristics and demographics, making real-life situations easier to understand as they naturally exist. The correlational aspect examined whether there was a significant relationship between the accessibility and usefulness of facilities and resources and students' academic performance, using a statistical measure of the strength and direction of the relationship (see Section 2.7), for example, whether students who rate resources as more accessible tend to achieve higher academic performance. This combination provided a comprehensive view, enabling the researchers both to describe conditions and to analyze their relationship with student achievement.

Study Setting, Scope, and Delimitations

The study was conducted at the University of Caloocan City – North, Congress Campus, located in North Caloocan. Its scope was limited to selected fourth-year Bachelor of Public Administration (BPA) students who were currently enrolled during Academic Year 2026–2027. It covered the level of accessibility and usefulness of the following university facilities: classrooms, libraries, and study areas (IT Room); and of the following learning resources: books and printed learning materials, instructional materials, online resources, and digital equipment. Academic performance was measured using respondents' most recent second-semester General Weighted Average (GWA).

The study was delimited to examining the relationship between facilities/resources and academic performance only. Other factors that affect academic performance—such as teaching methods, faculty competence, home environment, personal study habits, and socioeconomic status—are acknowledged but were not included in the scope of this research.

Operational Definition of Terms

The following terms are defined operationally and contextually as used in this study:

Books and printed resources. Textbooks, handouts, journals, and other printed references that students use for assignments, research, and examination preparation; one of the learning resources provided by the university.

Classrooms. The physical spaces where teaching and learning take place, such as lecture halls and regular rooms; facilities that influence how students focus and participate in lessons.

Digital equipment. Technological tools such as computers, laptops, projectors, tablets, and internet access; part of the learning resources that help students access information and complete academic tasks.

University facilities. The physical structures provided by the university, including classrooms, libraries, and study areas (IT Room), assessed in terms of their level of accessibility and usefulness; together with learning resources, the independent variables that may influence academic performance.

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Learning resources. The educational materials provided by the university, including books and printed materials, instructional materials, online resources, and digital equipment, assessed in terms of their level of accessibility and usefulness; together with facilities, the independent variables that may influence academic performance.

Level of accessibility and usefulness. How easy it is for students to access facilities and resources, and how helpful these are in supporting their studies; this variable measures the availability and practical value of resources in relation to academic success.

Libraries. Institutional facilities that give students access to books, journals, e-books, and other references; they also serve as study spaces and are considered essential learning resources.

Student academic performance. Students' grades, General Weighted Average (GWA), and other measurable results of their schoolwork; the outcome that shows how facilities and learning resources affect student achievement.

Study areas. Designated spaces inside the university where students can read, review lessons, or conduct group discussions; facilities that provide a supportive environment for learning outside the classroom.

Respondents and Sampling Technique

The respondents were 100 selected tertiary students of the University of Caloocan City – Congress Campus. They were intentionally chosen because students are the primary users of the university's facilities and learning resources, making their experiences directly relevant to the study's objectives. The research focused on fourth-year BPA students because this is a crucial stage of the academic journey in which exposure to institutional facilities and learning resources is most intensive: fourth-year students are deeply engaged in research, specialized coursework, and practical applications of their program, which makes their experiences highly relevant in evaluating the adequacy and effectiveness of the university's support systems and captures the varying needs and challenges of students at this level.

A combination of purposive and stratified sampling was used so that respondents were both relevant to the research objectives and fairly represented. Purposive sampling was applied first to identify students currently enrolled in the fourth-year BPA program of the Congress Campus who had direct experience with the facilities and learning resources being assessed, such as classrooms, libraries, laboratories, and digital resources. According to Alchemer (2021), purposive sampling is a non-probability method in which participants are intentionally chosen based on researcher judgment and predetermined standards; it ensures that only those with relevant experiences contribute to the study and helps avoid irrelevant or uninformed responses that might weaken the accuracy of the results.

Within this group, stratified sampling was then used. The fourth-year BPA students were divided into meaningful subgroups (such as sections, gender, or academic performance categories), and respondents were proportionally chosen from each stratum so that all relevant subgroups were represented and over-representation of one section or demographic was avoided. Unlike simple random sampling, which might overlook certain sections or categories, stratified sampling promotes fairness and inclusivity. This dual approach balanced relevance with representativeness and produced a sample that was both credible and reflective of the diversity of the fourth-year BPA cohort.

Research Instrument

The researchers developed a self-made survey questionnaire in a Likert-scale format (Appendix A). It consisted of four parts:

- **Part I** measured students' perceptions of the accessibility and usefulness of university facilities: classrooms, libraries, and study areas (IT Room), with five indicators each.
- **Part II** assessed students' perceptions of the accessibility and usefulness of university learning resources: books and printed materials, instructional materials, online resources, and digital equipment, with five indicators each.

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- **Part III** focused on academic performance, assessed through the respondent's latest General Weighted Average (GWA) as a reflection of scholastic achievement.
- **Part IV** identified the common barriers and difficulties students faced in using university facilities and learning resources, highlighting areas that require improvement.

The Likert-scale format allowed the researchers to measure the degree of agreement or disagreement with statements about the accessibility and usefulness of facilities and learning resources. Before administration, the questionnaire was reviewed and validated by academic experts and university authorities, including professors, research specialists, and campus administrators, and a statistician certified its validity. With the guidance of the research adviser, the instrument underwent several revisions to improve its clarity, relevance, and alignment with the study's objectives, and the validators' feedback was incorporated to strengthen the reliability and validity of the tool. The finalized questionnaire was a well-structured instrument capable of generating data that reflect the real experiences of students at the University of Caloocan City – Congress Campus.

Data Gathering Procedure and Ethical Considerations

Data were collected through an online survey administered via Google Forms, which was distributed through respondents' official school email accounts or shared with them directly to ensure accessibility and convenience. Before distribution, the researchers secured formal approval from the Schools Division Office of Caloocan City and from the heads of the University of Caloocan City – Congress Campus, so that the process adhered to institutional protocols. Participants were assured that their responses would remain strictly confidential, that their identities would be fully protected, and that all procedures would comply with established ethical standards. Providing the name on the questionnaire was optional. This approach safeguarded the integrity of the research and encouraged honest participation.

Data Analysis

The responses were analyzed using statistical tools aligned with the objectives of the study, combining descriptive and inferential statistics to describe student perceptions and to test relationships between variables.

Weighted mean was used to determine the level of accessibility and usefulness of the university facilities and learning resources (classrooms, libraries, study areas, books and printed resources, instructional materials, online resources, and digital equipment). It is an average computed by multiplying each data point by an assigned weight that reflects its importance or frequency, summing these products, and dividing by the total of the weights. Composite means were computed for each category and interpreted using the scale in Table 1. **Frequency, percentage, and rank** were used to describe the respondents' latest GWA and the challenges they encountered in using the facilities and learning resources.

Table 1. Scale for Interpreting the Weighted Mean

Range	Verbal Interpretation (VI)	Description
4.00 – 3.26	Strongly Agree (SA)	Facility/resource is highly accessible and useful
3.25 – 2.51	Agree (A)	Facility/resource is accessible and useful
2.50 – 1.76	Disagree (D)	Facility/resource is not very accessible or useful
1.75 – 1.00	Strongly Disagree (SD)	Facility/resource is not accessible or useful

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Spearman's rank correlation coefficient (rho) was used to determine whether there was a significant relationship (a) between the respondents' assessments of the accessibility and usefulness of the university facilities and learning resources, and (b) between these assessments and the respondents' academic performance based on their latest GWA. It quantifies the strength and direction of the monotonic relationship between two variables measured on at least an ordinal scale, and is appropriate for Likert-type ratings and GWA ranges. Hypotheses were tested at the 0.05 level of significance.

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RESULTS

This section presents the results in accordance with the statement of the problem. Interpretation of the findings in light of related literature is provided in Section 4.

Accessibility and Usefulness of University Facilities

Classrooms

Table 2. Level of Accessibility and Usefulness of Classrooms

Indicator	WM	VI
1. The classrooms are adequate in size for student learning.	3.50	SA
2. The classrooms are well-ventilated and comfortable.	2.95	A
3. The seating arrangements in classrooms support effective learning.	3.44	SA
4. The classrooms are equipped with necessary learning tools (e.g., whiteboards, projectors).	2.86	A
5. The overall classroom environment is conducive to academic performance.	3.34	SA
Composite Mean	**3.22**	**A**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

As shown in Table 2, the classrooms obtained a composite mean of 3.22, interpreted as *Agree*. The highest-rated indicator was classroom size (3.50, Strongly Agree), followed by seating arrangements that support effective learning (3.44, Strongly Agree) and an overall classroom environment conducive to academic performance (3.34, Strongly Agree). The lowest-rated indicators were the provision of necessary learning tools such as whiteboards and projectors (2.86, Agree) and ventilation and comfort (2.95, Agree).

Libraries

Table 3. Level of Accessibility and Usefulness of Libraries

Indicator	WM	VI
1. The library has sufficient books and references for my academic needs.	3.27	SA
2. The library is accessible during convenient hours.	3.59	SA
3. The library provides a quiet and organized study environment.	3.75	SA
4. The library staff are helpful in assisting students.	3.61	SA
5. The library's digital resources (e.g., e-books, online journals) are useful for my studies.	3.46	SA
Composite Mean	**3.54**	**SA**

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Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

Table 3 shows that students strongly agreed that the library is accessible and useful, with a composite mean of 3.54 (*Strongly Agree*). The highest-rated indicator was the provision of a quiet and organized study environment (3.75), followed by helpful library staff (3.61), convenient operating hours (3.59), and useful digital resources such as e-books and online journals (3.46). The lowest-rated indicator was the sufficiency of books and references for academic needs (3.27), which was still interpreted as Strongly Agree.

Study Areas (IT Room)

Table 4. Level of Accessibility and Usefulness of Study Areas (IT Room)

Indicator	WM	VI
1. The computers in the IT Room are accessible to students for academic purposes.	3.49	SA
2. The computers in the IT Room are functional and suitable for completing tasks.	3.49	SA
3. The printer in the IT Room is accessible when students need to print academic requirements.	3.40	SA
4. The IT Room provides adequate computer and printing facilities to support students' academic activities.	3.46	SA
5. The IT Room helps students complete their academic requirements efficiently through its available computers and printer.	3.47	SA
Composite Mean	**3.46**	**SA**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

The IT Room obtained a composite mean of 3.46, interpreted as *Strongly Agree* (Table 4). The highest weighted mean (3.49) was shared by two indicators—computers that are accessible to students for academic purposes and computers that are functional and suitable for completing tasks—followed by the IT Room's help in completing academic requirements efficiently (3.47) and the adequacy of computer and printing facilities (3.46). The accessibility of the printer obtained the lowest weighted mean (3.40), still interpreted as Strongly Agree.

Accessibility and Usefulness of University Learning Resources

Books and Printed Learning Materials

Table 5. Level of Accessibility and Usefulness of Books and Printed Materials

Indicator	WM	VI
1. The university provides adequate printed materials for academic use.	3.15	A
2. The books and references are updated and relevant to my courses.	3.16	A
3. Printed materials are easily accessible when needed.	2.98	A

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4. The availability of printed materials supports my academic performance.	3.02	A
5. The printed resources are sufficient for research and assignments.	3.03	A
Composite Mean	**3.07**	**A**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

Books and printed materials obtained a composite mean of 3.07 (*Agree*; Table 5). The highest-rated indicator was that books and references are updated and relevant to the respondents' courses (3.16), followed by the adequacy of printed materials for academic use (3.15), their sufficiency for research and assignments (3.03), and their support for academic performance (3.02). The lowest-rated indicator was the ease of access to printed materials when needed (2.98).

Instructional Materials

Table 6. Level of Accessibility and Usefulness of Instructional Materials

Indicator	WM	VI
1. The instructional materials provided (textbooks, handouts, modules) are sufficient to understand the subject matter.	3.22	A
2. The quality of instructional materials helps me learn the topics more effectively.	3.35	SA
3. Instructional materials are updated and relevant to the current curriculum.	3.25	A
4. The instructional materials make learning easier and more engaging.	3.30	SA
5. I can easily access and use the instructional materials when needed.	3.15	A
Composite Mean	**3.25**	**A**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

Instructional materials obtained a composite mean of 3.25, interpreted as *Agree* (Table 6). The highest-rated indicator was that the quality of instructional materials helps respondents learn topics more effectively (3.35, Strongly Agree), followed by materials that make learning easier and more engaging (3.30, Strongly Agree), materials that are updated and relevant to the current curriculum (3.25), and the sufficiency of textbooks, handouts, and modules (3.22). The lowest-rated indicator was ease of access to and use of the materials when needed (3.15).

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Online Resources (UCC Website)

Table 7. Level of Accessibility and Usefulness of Online Resources (UCC Website)

Indicator	WM	VI
1. Online resources (e-books, educational websites, videos) help supplement my learning.	3.18	A
2. The online resources provided are easy to access and navigate.	3.08	A
3. Online resources enhance my understanding of the subject beyond classroom learning.	3.15	A
4. I regularly use online resources to complete assignments or projects.	3.11	A
5. The online resources are reliable and up to date.	3.14	A
Composite Mean	**3.13**	**A**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

Online resources obtained a composite mean of 3.13 (*Agree*; Table 7). The highest-rated indicator was that online resources help supplement learning (3.18), followed by enhanced understanding of the subject beyond classroom learning (3.15), reliability and currency of the resources (3.14), and regular use for assignments or projects (3.11). The lowest-rated indicator was that the online resources are easy to access and navigate (3.08).

Digital Equipment (Laboratory and IT Room)

Table 8. Level of Accessibility and Usefulness of Digital Equipment (Laboratory and IT Room)

Indicator	WM	VI
1. The university provides access to computers and digital devices for student use.	3.11	A
2. The internet connection within the campus is reliable.	2.80	A
3. Digital equipment is available when needed for academic tasks.	2.87	A
4. The digital resources enhance my learning experience.	3.08	A
5. The availability of digital equipment supports my academic performance.	3.09	A
Composite Mean	**2.99**	**A**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). WM = weighted mean; VI = verbal interpretation.

Digital equipment obtained a composite mean of 2.99, interpreted as *Agree* (Table 8), the lowest composite among the seven categories assessed. The highest-rated indicator was that the university provides access to computers and digital devices (3.11), followed by the contribution of digital equipment to academic performance (3.09) and to the learning experience (3.08). The lowest-rated indicators were the reliability of the campus internet connection (2.80) and the availability of digital equipment when needed for academic tasks (2.87).

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Summary of Composite Ratings

Table 9. Summary and Ranking of Composite Means by Facility and Learning Resource

Facility / Learning Resource (ranked)	Composite Mean	VI
1. Libraries	3.54	SA
2. Study Areas (IT Room)	3.46	SA
3. Instructional Materials	3.25	A
4. Classrooms	3.22	A
5. Online Resources (UCC Website)	3.13	A
6. Books and Printed Materials	3.07	A
7. Digital Equipment (Laboratory and IT Room)	2.99	A
Mean of the seven composite means	**3.24**	**A**

Note. Legend: 4.00–3.26 = Strongly Agree (SA); 3.25–2.51 = Agree (A); 2.50–1.76 = Disagree (D); 1.75–1.00 = Strongly Disagree (SD). VI = verbal interpretation. The last row is the unweighted mean of the seven composite means.

Table 9 ranks the seven categories by composite mean. Libraries (3.54) and the IT Room (3.46) were the only categories rated Strongly Agree; the other five categories were rated Agree, with digital equipment lowest (2.99). The mean of the seven composite means was 3.24 (Agree). Across all 35 indicators, the highest rating was the quiet and organized library environment (3.75) and the lowest was the reliability of the campus internet connection (2.80), followed by classroom learning tools (2.86) and the availability of digital equipment when needed (2.87).

Academic Performance of the Respondents

Table 10. Academic Performance of the Student-Respondents Based on Latest General Weighted Average (GWA)

Latest GWA	Frequency (f)	Percentage (%)
1.00–1.25	1	1%
1.26–1.50	17	17%
1.51–1.75	34	34%
1.76–2.00	27	27%
2.01–2.25	11	11%
2.26–2.50	7	7%
2.51–2.75	1	1%
2.76–3.00	0	0%
3.01–5.00	2	2%

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TOTAL	**100**	**100%**

Table 10 shows that the largest group of respondents had a GWA of 1.51–1.75 (34 respondents, 34%), followed by those with a GWA of 1.76–2.00 (27 respondents, 27%), 1.26–1.50 (17 respondents, 17%), and 2.01–2.25 (11 respondents, 11%). One respondent (1%) had a GWA of 1.00–1.25, seven respondents (7%) had a GWA of 2.26–2.50, one respondent (1%) had a GWA of 2.51–2.75, and two respondents (2%) had a GWA of 3.01–5.00; no respondent fell within the 2.76–3.00 range. Seventy-eight respondents (78%) had GWA ratings between 1.26 and 2.00, and the majority (61%) were concentrated in the 1.51–2.00 range, indicating generally good academic standing on the grading scale used by the university.

Relationship Between the Assessments and Academic Performance

Table 11. Test of Significant Relationships (Spearman's Rank Correlation)

Variables compared	rho	p-value	Interpretation	Decision on H_0	Remarks
Accessibility vs. usefulness of the university facilities and learning resources (H01)	0.4493	< .001	Moderate positive relationship	Reject	Significant
Assessed accessibility and usefulness of the university facilities and learning resources vs. academic performance (GWA) (H02)	−0.500	0.6214	No significant relationship	Fail to reject	Not significant

Accessibility and usefulness. As shown in Table 11, the computed Spearman's rho of 0.4493 indicates a moderate positive relationship between the respondents' assessments of the accessibility and usefulness of the university facilities and learning resources. The p-value (< .001) is lower than the 0.05 level of significance, so the relationship is statistically significant and the null hypothesis (H01) is rejected: respondents who perceived the facilities and learning resources as more accessible also tended to perceive them as more useful in supporting their academic activities and learning needs.

Academic performance. The relationship between the respondents' assessments and their academic performance was not statistically significant. The computed Spearman's rho was −0.500, and the p-value of 0.6214 exceeded the 0.05 level of significance, so the study failed to reject the null hypothesis (H02): there was insufficient statistical evidence of a significant relationship between respondents' assessments of the university facilities and learning resources and their GWA.

Challenges Encountered by the Respondents

Table 12. Challenges Encountered by the Student-Respondents in Using the University Facilities and Learning Resources

Challenge	Frequency (f)	% of respondents	Rank
1. Limited availability of facilities	61	61%	1
2. Limited access to computers or internet	59	59%	2

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3. Overcrowded classrooms or study areas	44	44%	3
4. Insufficient books or learning materials in the library	30	30%	4
5. Poor maintenance of facilities	29	29%	5
6. Inconvenient operating hours (IT Room)	10	10%	6
7. Lack of staff or technical assistance	8	8%	7

Note. n = 100. Respondents could select more than one challenge, so frequencies do not sum to 100.

Table 12 shows that the most commonly reported challenge was the limited availability of facilities (f = 61), followed by limited access to computers or the internet (f = 59), and overcrowded classrooms or study areas (f = 44). Less frequently reported were insufficient books or learning materials in the library (f = 30), poor maintenance of facilities (f = 29), inconvenient operating hours of the IT Room (f = 10), and lack of staff or technical assistance (f = 8). The major challenges thus relate mainly to the availability of facilities and access to computers and internet services rather than to staff assistance.

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DISCUSSION

This study examined how students at the University of Caloocan City – North, Congress Campus assess the accessibility and usefulness of the university's facilities and learning resources, and whether these assessments are related to academic performance. Students generally agreed or strongly agreed that facilities and learning resources were accessible and useful; their assessments of accessibility and usefulness were significantly and moderately related, but their assessments were not significantly related to their GWA. The sections below interpret these findings in light of the reviewed literature.

University Facilities

Classrooms

Students generally agreed that classrooms provide acceptable facilities for learning (composite mean 3.22). The highest rating for classroom size (3.50) suggests that students are generally satisfied with the available space, which is consistent with Jin and Peng (2022), who emphasized the importance of classroom size and spatial allocation in promoting student satisfaction and engagement, and with Baars et al. (2022), who highlighted adequate classroom space as a support for different teaching methods and collaborative learning activities. The favorable rating of seating arrangements (3.44) is consistent with Ong et al. (2023), who suggested that classroom arrangements encourage student participation and support learning activities, and the rating of the overall environment as conducive to academic performance (3.34) relates to Diza and Galang (2026), who emphasized a conducive learning atmosphere in supporting student motivation.

The lowest rating, for classroom learning tools such as whiteboards and projectors (2.86), suggests room for improvement in the provision and availability of instructional tools. Sari et al. (2024) discussed the usefulness of projectors in presenting lesson content visually and supporting classroom discussions, implying that improving access to instructional equipment may help teachers deliver lessons more effectively. Ventilation and comfort (2.95) were accepted but may still be improved; Wargocki et al. (2020) discussed the relationship between indoor air quality, thermal comfort, and students' cognitive performance and attention, and Son and Jang (2021) emphasized adequate air circulation in maintaining a healthier indoor learning environment. Overall, classroom facilities involve not only sufficient physical space but also the availability of instructional tools and comfortable environmental conditions, and improving these aspects may help create a more supportive learning environment at the University of Caloocan City – North.

Libraries

The library was the most positively assessed facility (composite mean 3.54). The quiet and organized study environment (3.75) is supported by Hong et al. (2022), who examined the relationship between the indoor environment of a university learning commons and students' perceived productivity and highlighted satisfaction with noise levels, and by Damián-Chávez et al. (2021), who reported differences in student performance between a quiet room and a noisier learning commons. Helpful library staff (3.61) is related to Diango and Puertos (2026), who emphasized the role of library staff in assisting students and supporting effective use of library resources; responsive personnel makes it easier for students to locate references, use library services, and complete academic tasks. Convenient operating hours (3.59) relate to Migdalski and Moreau (2021), who identified student demand for additional weekend library hours at the University of Oklahoma, and to Harmon and Sewell (2024), who examined changes in library use following the extension of operating hours; library schedules should respond to students' academic needs and availability.

The sufficiency of books and references received the comparatively lowest library rating (3.27), though still Strongly Agree. Galagala (2024) emphasized evaluating library collections and resources to ensure they meet students' academic requirements; continuously updating and expanding the collection may help address different subject requirements and research needs. The usefulness of digital resources such as e-books and online journals (3.46) is consistent with Choudhary and Chaudhari (2025), who discussed the role of electronic resources, including

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e-books, e-journals, and databases, in supporting teaching, learning, and research, while also noting challenges such as subscription costs and differences in digital literacy. An effective academic library thus requires a comfortable study environment, responsive personnel, convenient access, sufficient printed materials, and useful digital resources.

Study Areas (IT Room)

Students strongly agreed that the IT Room is accessible and useful (composite mean 3.46). The high ratings for accessible and functional computers (3.49) relate to Clavijo et al. (2026), who emphasized the importance of accessible information technology facilities in promoting inclusive participation in education, and to Kumari and Gupta (2024), who highlighted adequate infrastructure and properly maintained ICT facilities in supporting students' confidence and motivation. The recognition that the IT Room helps students complete academic requirements efficiently (3.47) is consistent with Adeyemi (2024), who discussed the role of ICT in supporting teaching efficiency, student engagement, and learning outcomes in higher education, and with Okafor (2024), who emphasized available and well-maintained technological facilities in supporting engagement and learning.

Printer accessibility (3.40) was the lowest-rated IT Room indicator, suggesting that printer availability may deserve further monitoring. This highlights the importance of maintaining not only functional computers but also supporting equipment students need when preparing and submitting academic requirements; Kumari and Gupta (2024) emphasized that adequate infrastructure and reliable technical support are important components of effective ICT facilities. Ensuring that printers remain functional and available may help students complete academic tasks with fewer interruptions.

University Learning Resources

Books and Printed Learning Materials

Students agreed that books and printed materials are accessible and useful (composite mean 3.07). The relevance and currency of books and references (3.16) are supported by Bérešová (2025), who emphasized evaluating instructional materials to ensure they remain relevant to learners' needs and course objectives, and DeCarlo (2021), who discussed the value of updating and adapting educational materials to course requirements. The adequacy of printed materials (3.15) relates to Okenyi et al. (2022), who highlighted the role of printed learning materials in supporting academic activities and motivation, and to Azuelo (2025), who emphasized the usefulness of printed materials such as textbooks and modules in providing organized information and supporting independent learning.

Ease of access to printed materials was rated lowest (2.98), which highlights the importance of making books and other printed resources available when students need them; Azuelo (2025) discussed the practical value of printed materials for students who need consistent access to learning content without depending on digital devices or internet connectivity. The ratings for sufficiency for research and assignments (3.03) and contribution to academic performance (3.02) suggest that the university may explore ways to strengthen the availability and adequacy of printed resources. Belhida et al. (2025) emphasized the value of printed materials in supporting reading comprehension, concentration, and information retention, suggesting that maintaining an adequate collection of printed materials helps students study, conduct research, and complete assignments.

Instructional Materials

Respondents generally assessed instructional materials positively (composite mean 3.25). The highest rating, for quality of materials in helping students learn more effectively (3.35), is supported by Herlinawati et al. (2024), who emphasized the role of quality instructional materials in helping students understand academic subjects and complex concepts, and by Kabilito (2024), who highlighted the importance of instructional materials in facilitating comprehension, communication, and retention. The rating for materials that make learning easier and more engaging (3.30) is related to Dimaano (2026), who discussed how well-designed educational resources, including visual aids, digital tools, and multimedia materials, make complex concepts easier to understand and encourage engagement,

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and to Evermeld and Andala (2023), who emphasized the usefulness of educational resources in making classroom activities more meaningful and engaging.

The ratings for currency and relevance to the curriculum (3.25) and sufficiency (3.22) suggest that continued evaluation may help keep resources aligned with course requirements, consistent with Herlinawati et al. (2024) on aligning instructional materials with contemporary learning standards and educational objectives. Ease of access and use was the lowest-rated aspect (3.15); Villar et al. (2022) discussed the value of accessible instructional resources in helping students review lessons, address learning gaps, and study at their own pace, and Evermeld and Andala (2023) highlighted the importance of making educational resources available and usable. Instructional materials should be relevant, understandable, engaging, sufficient, and accessible.

Online Resources (UCC Website)

Students agreed that the university's online resources are accessible and useful (composite mean 3.13). The highest rating, for supplementing learning (3.18), is supported by Lao and Catalan (2023), who discussed the role of online resources in supplementing classroom instruction, and by Teofilo-Labitad and Paglinawan (2025), who emphasized the value of diverse digital learning resources and relevant digital tools in providing flexible access to information and encouraging independent, self-directed study. The ratings for enhanced understanding beyond the classroom (3.15) and for reliability and currency (3.14) are consistent with the same studies.

Ease of access and navigation received the lowest rating (3.08), which relates to Canaria, Yango, and Bautista (2024), who emphasized user-friendly digital systems and information literacy in helping students locate, manage, and use academic information, and to Esponilla et al. (2025), who highlighted digital literacy and organized online platforms in helping students access and use learning materials. Regular use of online resources for assignments and projects (3.11) also depends on consistent internet access: Akmad and Abatayo (2024) emphasized stable internet connectivity as essential for conducting research, retrieving academic materials, and submitting requirements on time. Useful online learning resources should therefore be relevant, updated, easy to navigate, and supported by reliable internet access.

Digital Equipment (Laboratory and IT Room)

Digital equipment had the lowest composite mean (2.99, Agree). Students recognized that computers and digital devices are available (3.11) and that digital equipment supports learning (3.08) and academic performance (3.09), but the reliability of campus internet (2.80) and availability of equipment when needed (2.87) were the lowest-rated indicators in the entire survey, indicating that students may experience limitations in access. These findings parallel those of Gloria et al. (2025), who identified unreliable Wi-Fi and digital resource accessibility as concerns, and the literature reviewed in Section 1.2.2, which stresses that digital equipment is effective only when accompanied by adequate infrastructure, institutional support, and user preparedness (Granić, 2022; Sum & Oancea, 2022; Timotheou et al., 2023). Improving internet reliability and the availability of digital devices may help students complete academic tasks and make better use of technology for learning.

Academic Performance Profile

Most respondents had GWA ratings between 1.26 and 2.00, with the largest proportion in the 1.51–1.75 range. Hanappi-Egger (2022) emphasized that academic performance assessment should consider different aspects of achievement—quality, impact, consistency, and individual circumstances—rather than relying on a single measure. This is relevant here because the GWA, although a measurable indicator, does not fully represent every factor contributing to academic outcomes; students' assessments of facilities and learning resources provide additional context for understanding their academic experiences.

Aporbo (2026) found that study habits, motivation, self-efficacy, and student engagement were positively related to academic performance among senior high school learners, with study habits the strongest predictor; parental support, the home learning environment, and teacher support were also relevant, and learning resources had a

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moderate impact. These findings support considering learning resources alongside other academic and personal factors, although they should be applied to university respondents with consideration of the difference in educational level. Caday et al. (2025), using predictive analytics, identified attendance, study hours, and GWA among the factors used to predict the outcomes of diploma students at ACLC College of Butuan, highlighting the value of monitoring academic progress to identify students who need support. Maneja et al. (2026) found, among 93 Bachelor of Technology and Livelihood Education students, a significant positive correlation between course engagement and GWA, although regression indicated that engagement did not significantly influence academic performance—a distinction showing the importance of examining specific relationships rather than assuming that an associated factor causes or predicts performance. Bautista et al. (n.d.) found that undergraduate academic performance and quantitative aptitude were significant predictors of success in a University of the Philippines graduate business program, reinforcing the use of an established indicator such as the GWA to describe academic standing. The GWA distribution alone does not establish whether facilities and learning resources are related to academic outcomes; this requires the statistical analysis reported in Section 3.4.

Relationship Between Accessibility and Usefulness

The significant moderate positive relationship (rho = 0.4493, $p < .001$) suggests that students who perceive facilities and learning resources as more accessible also tend to perceive them as more useful. Gloria et al. (2025) gathered quantitative and qualitative data from more than 1,600 students across 13 colleges at a state university in Malolos, Bulacan, and found differences in satisfaction by college and year level, as well as concerns about Wi-Fi reliability and digital resource accessibility; although their focus was infrastructure and satisfaction rather than the direct relationship between accessibility and usefulness, their findings provide context for how students evaluate the resources available to them. Ninnemann et al. (2026) examined the availability and accessibility of informal learning spaces among 932 participants from four European universities and found that availability and accessibility were positively and significantly related to campus satisfaction, supporting the broader idea that accessible facilities contribute to more positive student evaluations of the university environment.

The literature also emphasizes that the presence of facilities alone does not ensure that students can use them effectively: quality, functionality, relevance, and physical or digital accessibility influence perceived usefulness, and facilities that are poorly maintained, difficult to access, or affected by unreliable internet connectivity may not adequately support students. This is consistent with the present finding that accessibility and usefulness are significantly associated. It is important to provide facilities and resources and to ensure that students can access and use them effectively. Because the analysis is correlational, the results establish an association and do not prove that accessibility causes greater usefulness.

Relationship With Academic Performance

Respondents' assessments of the accessibility and usefulness of facilities and learning resources were not significantly related to their GWA at the 0.05 level. This is comparable to earlier findings. Villanueva (2021) reportedly found a very weak positive and non-significant relationship between students' perceptions of school facilities and their GWA, noting that although students appreciated clean, functional, and accessible facilities, their performance was also associated with independent study time, class attendance, classroom participation, and personal commitment to learning. Acosta (2022) reportedly found a weak positive but non-significant relationship between access to university facilities and academic marks, suggesting that the contribution of access to performance may depend on how effectively students use the resources and on other educational factors. Mendoza (2023) reportedly found a weak and non-significant relationship between the availability of learning resources and undergraduate students' performance, pointing to differences in study habits, time management, motivation, and learning strategies as possible explanations—a perspective relevant here because respondents may assess the facilities and resources similarly while still obtaining different academic results.

The findings are also comparable to those of Ibrahim and Aliyu (2024), who reportedly found no statistically significant relationship between school infrastructure ratings and university students' academic achievement,

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emphasizing that adequate facilities provide an important environment for teaching and learning but do not automatically guarantee higher performance, and Catubig (2023), who reportedly found that learning facilities had no statistically significant independent effect on grade point averages when other factors were considered. The mixed evidence in the educational technology literature points the same way: Valverde-Berrocoso et al. (2022) described the evidence linking educational technology to student performance as inconclusive. Academic performance may involve several interacting factors, including quality of instruction, personal motivation, study habits, attendance, and individual learning strategies. These results contrast with the studies in Section 1.2.4 that reported positive relationships (e.g., Alhazmi, 2023; Garcia et al., 2022; Khalid & Farid, 2025), which may reflect differences in context, measures, and samples. Although facilities and learning resources remain important components of the educational environment, the present statistical results do not provide sufficient evidence that students' assessments of these resources are related to their academic performance in this sample, and the findings highlight the importance of other possible influences on achievement while the university continues to maintain accessible and useful facilities and resources.

Challenges Encountered

Limited availability of facilities (f = 61) was the most frequently reported challenge, indicating that many students have difficulty accessing facilities when needed, possibly due to limited space, equipment, or availability. Ighere (2025) identified inadequate school facilities, overcrowded classrooms, and insufficient learning resources as challenges that restrict students' participation and access to educational opportunities, and Darame and Dyal (n.d.) highlighted the importance of resource availability and utilization in supporting academic achievement and well-being. Limited access to computers or the internet (f = 59) suggests difficulties in accessing digital resources, conducting online research, and completing technology-based requirements; Depnag (2025) discussed how insufficient computers, slow internet connections, and limited access to digital academic resources make research more difficult and time-consuming, and Ighere (2025) identified limited access to ICT resources as a concern affecting educational activities.

Overcrowded classrooms or study areas (f = 44) remain a concern for a considerable number of respondents. Gqwabaza (2025) discussed difficulties associated with overcrowded classrooms, including limited individual attention, reduced engagement, and challenges in conducting effective learning activities; although that study focused on school-based experiences in rural and urban schools, it offers a relevant perspective, and managing classroom capacity and providing adequate study spaces may help create a more comfortable environment. Insufficient books or learning materials in the library (f = 30) and poor maintenance of facilities (f = 29) were reported less frequently but remain important: Depnag (2025) emphasized that limited access to books, electronic journals, and other materials makes it harder to find relevant and credible information, and Galagala (2024) highlighted evaluating the adequacy, relevance, and quality of library resources and services. Inconvenient IT Room operating hours (f = 10) and lack of staff or technical assistance (f = 8) were least frequently reported; nonetheless, the university may review IT Room schedules and ensure that technical assistance is available, since Darame and Dyal (n.d.) emphasized access to campus resources and services in supporting students' educational experiences.

Overall, the primary challenges involve the limited availability of facilities, restricted access to computers and the internet, and overcrowded classrooms or study areas, which suggests that students place considerable importance on sufficient physical spaces and reliable technological resources. These findings are consistent with the related literature on adequate facilities, accessible learning materials, reliable digital infrastructure, and suitable learning environments.

Limitations of the Study

Several limitations should be considered when interpreting the findings. First, the study was limited to 100 fourth-year BPA students of a single campus, so the results may not apply to other year levels, programs, or institutions. Second, facilities and learning resources were measured through students' self-reported perceptions of accessibility and usefulness rather than through objective inventories or utilization records, and academic performance was

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represented by a single GWA range. Third, the correlational design establishes association only and cannot support causal claims. Fourth, factors that affect academic performance—teaching methods, faculty competence, home environment, study habits, motivation, and socioeconomic status—were outside the scope of the study and were not controlled. Finally, ratings clustered in the Agree and Strongly Agree ranges, which may limit variability in the data available for correlation with GWA.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the findings of the study and in alignment with the reviewed literature, the following conclusions are drawn:

1. **Facilities.** Students agreed that classrooms (3.22) are accessible and useful and strongly agreed that the library (3.54) and the IT Room (3.46) are. The strongest features were the quiet and organized library environment, classroom size, and accessible, functional IT Room computers; the weakest were classroom learning tools, ventilation and comfort, printer accessibility, and the sufficiency of library books.
2. **Learning resources.** Students agreed that instructional materials (3.25), online resources (3.13), books and printed materials (3.07), and digital equipment (2.99) are accessible and useful, with campus internet reliability (2.80) and availability of digital equipment (2.87) as the weakest aspects. The benefit students derive from facilities and learning resources appears to depend not merely on their existence but on three interrelated dimensions: *accessibility* (convenience of location, operating schedules, and freedom from barriers), *adequacy* (sufficient quantity, capacity, and coverage relative to the student population), and *usability* (functional quality, condition, relevance, and ease of use). Availability alone is not sufficient; resources must also be functional, relevant, reliable, and conveniently accessible, and where any of these dimensions is compromised, the educational value of a facility or resource is diminished.
3. **Academic performance.** The respondents' academic standing was generally good, with 78% having a GWA between 1.26 and 2.00 and the largest group (34%) at 1.51–1.75. In this sample, however, GWA was not significantly related to students' assessments of facilities and learning resources; the study therefore does not provide statistical evidence that students who rate these resources more favorably attain higher or lower GWAs.
4. **Accessibility and usefulness.** There is a moderate positive and statistically significant relationship between respondents' assessments of accessibility and usefulness ($rho = 0.4493$, $p < .001$); H01 is rejected. Students who perceive facilities and learning resources as more accessible also tend to consider them more useful, so ensuring accessibility is important in enhancing their perceived usefulness.
5. **Relationship with academic performance.** There is no statistically significant relationship between respondents' assessments of the accessibility and usefulness of the facilities and learning resources and their academic performance ($rho = -0.500$, $p = 0.6214$); H02 is not rejected. Although these facilities and resources remain important in supporting learning experiences, other factors—such as study habits, attendance, motivation, teaching strategies, time management, and individual learning abilities—may also contribute to academic achievement.
6. **Challenges.** The most frequently encountered challenges were limited availability of facilities, limited access to computers or the internet, and overcrowded classrooms or study areas, followed by insufficient library materials, poor maintenance, inconvenient IT Room hours, and lack of technical assistance. These gaps indicate that the university's current support is uneven across resource categories and point to the most urgent targets for institutional improvement. They may also add to students' frustration, reduce efficiency, and make it harder to meet academic requirements, although the present data do not show a direct effect on GWA.

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7. **Sustained institutional commitment.** The development, maintenance, and management of facilities and learning resources should be regarded as a continuous, high-priority institutional commitment rather than a one-time project. Strategic planning, scheduled maintenance, equitable distribution of resources, timely upgrades of educational and information technology, and forward-looking infrastructure development help preserve quality standards, ensure fair and inclusive access, and allow the institution to keep pace with evolving academic standards and student needs. Without sustained investment, proactive administration, and long-term planning, existing deficiencies are likely to persist.

Recommendations

Based on the findings of the study, the researchers recommend that the University of Caloocan City – North, Congress Campus improve the availability and accessibility of its facilities and learning resources to better support students' academic needs. Because limited availability of facilities (f = 61) and limited access to computers and internet services (f = 59) were the most frequently reported challenges, the university may first maximize the use of unused or underutilized spaces—such as hallways, vacant rooms, covered outdoor areas, and lounge spaces—by converting them into functional study hubs with weatherproof seating, ambient lighting, power strips, and Wi-Fi access points, particularly for peak hours when existing spaces are fully occupied. The university should also increase its inventory of accessible, functional computers and standardize access to academic software so that students can complete coursework, conduct research, and navigate online learning platforms without technological bottlenecks. Additional computer units may be integrated into high-traffic areas such as the library, departmental computer laboratories, and open-access study areas. Institutional IT services should upgrade campus-wide Wi-Fi by deploying high-capacity access points and optimizing bandwidth, particularly in lounges, cafeterias, and study spaces, and should carry out regular preventive maintenance, repairs, and replacement of defective equipment to minimize interruptions in students' academic activities.

Specific recommendations are as follows:

1. Students are encouraged to plan their use of the library, IT Room, and study areas, coordinate with classmates, and schedule academic activities during less crowded periods, considering that limited availability of facilities was the most frequently reported challenge (f = 61).
2. Students are encouraged to download academic references and instructional materials whenever internet connectivity is available, to share relevant educational links through existing class group chats, and to coordinate the use of available computers, to help address the limited access to computers and internet reported by 59 respondents.
3. Students are encouraged to practice responsible use of classrooms and study areas by keeping shared spaces available for other students after completing their academic activities, which may help address overcrowding reported by 44 respondents.
4. The library may consider maintaining a list of frequently requested books and references to identify materials students have difficulty accessing, based on the weighted means of 2.98 for the accessibility of printed materials and 3.03 for their sufficiency for research and assignments. The list may serve as a basis for prioritizing additional copies of frequently used references, subject to available resources.
5. Faculty members may consider providing advance access to available instructional materials through existing class communication platforms. Students may also organize handouts, modules, and references into subject-specific folders for easier retrieval, particularly since accessibility of instructional materials received a weighted mean of 3.15.
6. Existing online academic resources may be organized by subject or course, while students may compile verified educational links and permitted references in shared class folders, to address the accessibility and navigation of online resources (weighted mean of 3.08).
7. Students are encouraged to report recurring internet connectivity problems, unavailable computers, and malfunctioning equipment to the appropriate university offices, which may use these reports to identify

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recurring concerns and prioritize basic maintenance and repairs, considering that internet reliability received a weighted mean of 2.80 and digital equipment availability 2.87.

8. The university may consider providing or designating an accessible study area for BPA students for group discussions, research activities, and academic consultations, subject to the availability of existing spaces. Since limited availability of facilities (f = 61) and overcrowded classrooms or study areas (f = 44) were frequently reported, the use of an existing underutilized room may accommodate students' academic activities without requiring the construction of a new facility.
9. Future researchers may examine other factors associated with academic performance, such as study habits, time management, and class attendance, since the present study found no statistically significant relationship between the accessibility and usefulness of facilities and learning resources and academic performance (p = 0.6214). Similar studies may also be conducted among other year levels or academic programs to determine whether comparable findings exist.

Table 13 translates the priority findings into a proposed action plan for the university.

Table 13. **Proposed Action Plan Based on the Priority Findings**

Priority problem/finding	Result and priority	Proposed recommendation	Responsible person/group	Timeline
Limited availability of facilities	Most frequently reported challenge: 61 students. Crowding was also reported by 44 students. Classroom equipment received a mean of 2.86 (Agree), the lowest classroom rating.	Conduct an inventory of facility use and peak-hour demand. Improve scheduling, open available rooms as study spaces when possible, and prioritize essential classroom equipment based on student and faculty needs.	University administration; Facilities Management; academic deans; department heads	Short term: inventory and scheduling review within 1–2 months. Ongoing: implement and review each semester.
Overcrowded classrooms or study areas	44 students reported this challenge, ranking third.	Review room capacity and class schedules, reduce avoidable timetable overlap, and identify suitable spaces that can be used for studying during busy periods.	Registrar; academic deans; department heads; Facilities Management	Review before the next semester; monitor room use throughout each semester.
Limited access to printed books and learning materials	30 students reported insufficient library materials. Books and printed materials had a composite mean of 3.07 (Agree); access when needed received 2.98 (Agree).	Survey course-specific resource needs, prioritize purchasing or replacing high-demand materials, and consider expanding access to e-books and digital references.	Library Director and staff; faculty; academic departments; university administration	Needs survey within 2 months; acquisition plan within 3–6 months; review collection annually.

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Limited access to computers or internet	Second most frequently reported challenge: 59 students. Campus internet reliability received 2.80 (Agree), the lowest digital-equipment rating; equipment availability received 2.87 (Agree).	Assess campus Wi-Fi coverage and connection capacity; repair or upgrade network equipment; maintain computers; and establish a process for reporting outages and equipment problems.	Information Technology (IT) Office; Facilities Management; university administration	Short term: assessment within 1 month. Medium term: repairs or upgrades within 3–6 months. Ongoing: monthly checks.
Maintenance of facilities	29 students reported poor maintenance. Classroom ventilation and comfort received 2.95 (Agree).	Create a preventive-maintenance schedule, provide a simple channel for students and staff to report issues, and prioritize repairs affecting safety, comfort, and learning.	Facilities Management; campus maintenance staff; department heads	Establish reporting and inspection process within 1–2 months; conduct inspections monthly.
Instructional materials are not always easy to access	Instructional materials composite mean was 3.25 (Agree); ease of access received 3.15 (Agree).	Organize materials in a consistent online location, check that links and files work, and provide accessible alternatives for students who cannot use digital materials.	Faculty; academic departments; IT Office; university library	Set up or review repositories within 1–3 months; check materials each semester.
Online resources could be easier to access and navigate	Online resources composite mean was 3.13 (Agree); access and navigation received 3.08 (Agree).	Improve the organization and navigation of the UCC website's learning resources, update outdated links, and provide brief student guidance on accessing resources.	IT Office; website administrators; library staff; faculty	Website review within 2–3 months; updates each semester.

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