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**WORK COMMITMENT OF THE COLLEGE
OF TEACHER EDUCATION AND LIBERAL ARTS
TEACHERS OF BAGUIO CENTRAL UNIVERSITY**

An Institutional Research

Presented to the Research and Development Center

BAGUIO CENTRAL UNIVERSITY

Baguio City

Michael Y. De Roxas, PhD

Lyha L. Fias-Ilon, PhD

Michelle C. Alumno, EdD

Jomard L. Calamba, MAM

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Abstract

This study aimed to determine and assess the work commitment of the College of Teacher Education and Liberal Arts teachers of Baguio Central University, academic year 2024-2025. It used the descriptive research design and descriptive survey method with the questionnaire as the main data gathering instrument. This was conducted to the teachers of the college of teacher education and liberal arts. The respondents of the study were fifteen (15) teachers which were distributed to them. The data gathered revealed that the teachers in the level of work commitment of the respondents was very highly manifested; the extent of effect of teachers' work commitment on their teaching performance had a very great effect. Based on the findings, the following were concluded: the level of work commitment can be attributed to the strong dedication and loyalty to their work, because of personal efficiency and confidence, motivation and passion, and positive work environment.

Keywords: learning, school, manifestation, courtesy, school environment, activities, team teaching, technology, instructional materials.

Introduction

Teachers hold numerous responsibilities aimed at the holistic development of learners. Maintaining a strong personal dedication to their

profession is essential to sustain the energy and enthusiasm required for their work. Teaching is a highly respected profession within society, functioning as a catalyst for change by transforming ideas into principles and principles into institutions that spread knowledge and wisdom. The teaching profession is inherently complex and demanding.

Teacher commitment directly influences students' academic performance. Highly committed teachers teach effectively, resulting in better student outcomes. In high-performing schools, teachers prepare lessons thoroughly, utilize relevant teaching materials, and actively engage students through interactive strategies. They reinforce learning through drills, assessments, and practical teaching methods, particularly in subjects like mathematics and inquiry-based learning. Tools such as quizzes and tests provide students opportunities to practice and reinforce knowledge. Regular assignments, homework, and projects help deepen students' understanding of various concepts.

Teachers show crucial roles in the lives of learners, primarily known for educating those entrusted to their care. However, their contributions extend far beyond instruction, they establish the classroom atmosphere, foster a supportive environment, mentor and nurture students, serve as role models, and remain attentive to signs of students' difficulties (Calica, 2018).

Teachers' level of work commitment is influenced by multiple factors, including their relationships with colleagues, family circumstances, and economic conditions. A teacher's value system significantly affects their connection to the school where they work. Higher levels of teacher commitment enhance staff performance and the overall quality of the school. Commitment is defined as a positive, emotional bond between the teacher and the school. Efforts in teacher reform are expected to improve this commitment. Researchers emphasize that increasing teachers' commitment is a crucial step in the school reform process. Additionally, professionalizing teachers leads to greater commitment, which in turn positively impacts their performance and student achievement, ultimately improving student learning outcomes.

Teachers were more likely to experience job satisfaction and job security and to feel supported and informed. It is encouraging that teacher's perceived quality of working life compares so favorably with that of the norm group in other respects. This fact is not prominent in the current debate, and could usefully be highlighted.

In reality, there are issues and problems that need to be addressed in every educational institution. The functions and working hours are crucial factors affecting teachers' quality of work life. Differences in satisfaction levels between teachers and their managers warrant attention. Specifically, it may be helpful to assess the support provided to head

teachers and find ways to alleviate the stress that comes with their additional responsibilities. Many teachers expressed a desire for greater involvement or responsibility, but it is important that this does not increase their stress levels. Strategies to reduce teachers' working hours are currently being explored and could offer significant benefits. The findings strongly indicate that improving job satisfaction and reducing stress can positively influence job commitment. Therefore, these areas are essential for improving teacher recruitment and retention (Bardach et al, 2022).

When teachers are committed, they tend to be more productive, which in turn motivates students to put forth greater effort in class and achieve better results. However, many schools face challenges related to teachers' performance due to a lack of commitment to their profession. This issue threatens the quality of education and requires urgent attention because if it persists, it could negatively impact the country's economy. It is important to understand that commitment is not always absolute, as teachers may be influenced by various factors such as family, environmental, and personal circumstances that can affect their work performance (Mammadzada, 2021).

In Baguio Central University, teachers exhibit varying levels of commitment. Some are highly praised for their adherence to administrative requirements, punctuality, minimal absences, and strong

interpersonal skills. School administrators often see these traits as indicators of work commitment, reflecting teachers who are generally happy, satisfied, and engaged in their workplace. On the other hand, there are teachers who appear to show a low level of commitment. These teachers often express dissatisfaction with their tasks, struggle with attendance, and experience conflicts with colleagues, administrators, and the community. Such negative behaviors are signs of reduced work commitment. Given this context, the researcher aims to conduct a formal academic study to better understand teachers' commitment and its impact on their performance in the said institution.

Purpose of the Study

The main goal of this study is to explore the manifestation of the Teachers' dedication to their work which can be served as a foundation for developing programs aimed at improving, enhancing, and strengthening their professional commitment, that in turn boosts their teaching performance. Through teaching design, techniques and implement activities focused on increasing teachers' dedication and effectiveness. Additionally, teachers gain awareness of the various factors influencing their commitment and their performance in the teaching profession. Also, this can guide the creation of developmental programs and activities that support teachers' engagement and instructional quality. Ultimately, students benefit from these improvements because committed

and motivated teachers are better able to deliver quality education, helping learners to reach their full potential and acquire essential skills and values.

Significance of the Study

The result of this study would be used as a basis for enhancing and sustaining the work commitment of the teachers of the college of teacher education and liberal arts. Furthermore, this study is conducted to provide the importance of work commitment which reflect on the performance of the teachers and the feedback coming from the evaluation of the students.

Teachers' commitment-focused strategies in every professional resource management, along with transformational leadership approaches in organizations or institutions such as schools and other agencies that aim to foster desired employee behaviors and attitudes by strengthening psychological connections between organizational goals and individual employee goals.

The growing interest in employee commitment is partly due to evidence linking it with high trust workplaces, another is the improvement of job performance, and increased productivity through extra role behaviors inside and outside the university. Additionally, research highlights strong employee commitment levels and turnover rates, a critical concern for employers relying on a stable, balanced and specialized workforce. The high attrition rates of teachers in urban schools or universities underline the importance of this topic, as other universities

face challenges in attracting and retaining qualified professionals (Wang, 2024).

In a nutshell, this study has to do with the full potential of teachers' work commitment and dedication to the university and has impact to the students of Baguio Central University.

Statement of the Problem

This study aims to determine the work commitment of the teachers of the college of teacher education and liberal arts for the school year 2024 to 2025.

Specifically, it sought to answer the following questions:

What is the level of manifestation of teachers' work commitment, along Social regard for learning (b) learning environment (c) diversity of learners (d) curriculum (e) personal and professional growth

What is the extent of effect of teachers' work commitment on their teaching performance?

Methodology

Research Design

This study employed a descriptive research design. Descriptive research focuses on the existing conditions or relationships, prevailing practices, ongoing beliefs and processes, experienced effects, or emerging trends. It goes beyond merely collecting and organizing data by including

interpretation of the meaning or significance of the described phenomena. This approach involves the description, analysis, and interpretation of current conditions. Additionally, descriptive research may involve comparing and contrasting or identifying existing relationships between events or groups.

Locale and Population of the Study

The study involved the total enumeration of fifteen (15) faculty members of the college of teacher education and liberal arts during the academic year 2024-2025.

Data Gathering Tools

These researchers adopted the questionnaire of Calica (2018) with slight modifications. The questionnaire for CTELA teachers is composed of two parts, namely;

Part I deals with the level of manifestation of CTELA teachers' work commitment along;

- a. social regard for learning
- b. learning environment
- c. diversity of learners
- d. curriculum
- e. personal and professional growth

Part II focuses on the extent of effect of teachers' work commitment on their teaching performance.

Reliability and Validity of the Research Instrument

The reliability and validity of the adopted questionnaire were considered high because it had been previously validated and used by other researchers in their respective studies.

Data Gathering Procedures

After the research was approved, the researchers asked the vice president for academic affairs and the president of Baguio Central University for permission to proceed with the study. Then, they sought permission from the Research Director to continue with the study and collect the population of the faculty members of CTELA for the school year 2024 to 2025. A letter to the respondents was included with the questionnaire to guarantee the privacy of their answers. Subsequently, the researchers manually distributed the questionnaires to the target respondents. After the questionnaire was retrieved, the collected data was categorized appropriately, and the researchers totaled, evaluated, and analyzed it.

Treatment of Data

Descriptive statistics such as frequency count, mean, and ranking will be used to analyze the data on the two parts of the questionnaire. For Part I of the questionnaire which is the level of manifestation of CTELA teachers' work commitment along (a) social regard for learning, (b)

learning environment, (c) diversity of learners, (d) curriculum, and (e) personal and professional growth.

Numerical Value	Statistical Limits	Descriptive Equivalent	Symbol
5	4.21-5.00	Very Highly Manifested	VHM
4	3.41-4.20	Highly Manifested	HM
3	2.61-3.40	Moderately Manifested	MM
2	1.81-2.60	Slightly Manifested	SM
1	1.00-1.80	Least Manifested	LM

For Part II is the extent of effect of work commitment of CTELA teachers on their teaching performance.

Numerical Value	Statistical Limits	Descriptive Equivalent	Symbol
5	4.21-5.00	Very Great Effect	VGE
4	3.41-4.20	Great Effect	GE
3	2.61-3.40	Moderate Effect	ME
2	1.81-2.60	Slight Effect	SE
1	1.00-1.80	No Effect	NE

Ethical Considerations

The researchers considered the voluntary participation of the respondents to have a better outcome of the research due to the full cooperation that comes from the respondents themselves. If ever, any of the respondents would like to withdraw with any reason behind, the researchers, should allow it to happen.

Truly, full consent from the respondents of the research was taken into consideration to ensure reliable and valided responses from the respondents during the process. No pressure was exerted to achieve a free and harmonious relationship between the researchers and the respondents.

The researchers were personally retrieving all accomplished questionnaires to ensure that every data gathered were protected and cared for with utmost confidentiality.

Results and Discussions

Level of manifestation of teachers’ work commitment

Table 1 reflects the level of manifestation of CTELA teachers’ work commitment along social regard for learning, learning environment, diversity of learners, curriculum, and personal and professional growth.

Table 1

Manifestation of CTELA teachers’s work commitment along social regard for learning, learning environment, diversity of learners, curriculum, and personal and professional growth (n=15)

Work Commitment	5	4	3	2	1	WM	DE	R
A. SOCIAL REGARD FOR LEARNING								
1. Exhibits punctuality.	8 (40)	7 (28)	0	0	0	4.53	VHM	7
2. Exhibits actions that value for learning	10 (50)	5 (20)	0	0	0	4.67	VHM	5
3. Implements school policies and procedures	12 (60)	3 (12)	0	0	0	4.80	VHM	2
4. Maintains appropriate appearance	10 (50)	5 (20)	0	0	0	4.67	VHM	5

5. Is careful about the effect of one's behavior on students	12 (60)	3 (12)	0	0	0	4.80	VHM	2
6. Exhibits that learning is of different kinds and comes from different sources.	12 (60)	3 (12)	0	0	0	4.80	VHM	2
7. Makes use of various learning experiences and resources.	10 (50)	5 (20)	0	0	0	4.67	VHM	5
WM						4.71	VHM	
B. LEARNING ENVIRONMENT	5	4	3	2	1			
1. Creates an environment that promotes fairness.	13 (65)	2 (8)	0	0	0	4.87	VHM	3
2. Maintains a learning environment of courtesy and respect for different learners (e.g., ability, culture, gender).	13 (65)	2 (8)	0	0	0	4.87	VHM	3
3. Provides gender-fair opportunities for learning.	13 (65)	2 (8)	0	0	0	4.87	VHM	3
4. Recognizes that every learner has strengths.	13 (65)	2 (8)	0	0	0	4.87	VHM	3
5. Makes the classroom environment safe and conducive to learning.	12 (60)	3 (12)	0	0	0	4.80	VHM	6.5
6. Maintains a safe and orderly classroom free from distractions.	10 (50)	5 (20)	0	0	0	4.67	VHM	10
7. Arranges challenging activities in a given physical environment.	12 (60)	2 (8)	1 (3)	0	0	4.73	VHM	8
8. Uses individual and cooperative learning activities to improve capacities of learners for higher learning.	10 (50)	5 (20)	0	0	0	4.67	VHM	10
9. Encourages learners to ask questions.	9 (45)	5 (20)	1 (3)	0	0	4.53	VHM	15
10. Provides learners with a variety of learning experiences.	7 (35)	7 (28)	1 (3)	0	0	4.40	VHM	18
11. Provides varied enrichment activities to nurture the desire for further learning.	8 (40)	7 (28)	0	0	0	4.53	VHM	15
12. Communicates and maintains high standards of learning performance.	8 (40)	7 (28)	0	0	0	4.53	VHM	15
13. Establishes and maintains consistent standards of learner's behavior.	8 (40)	7 (28)	0	0	0	4.53	VHM	15
14. Handles behavior problems quickly and with due respect to children's rights.	10 (50)	4 (16)	1 (3)	0	0	4.60	VHM	12
15. Gives timely feedback to reinforce appropriate learners' behavior.	11 (55)	3 (12)	1 (3)	0	0	4.67	VHM	10

16. Guides individual learners to the development of appropriate moral, social and learning behavior.	13 (65)	2 (8)	0	0	0	4.87	VHM	3
17. Encourages free expression of ideas from students.	12 (60)	3 (12)	0	0	0	4.80	VHM	6.5
18. Creates a stress-free environment.	8 (40)	7 (28)	0	0	0	4.53	VHM	15
WM						4.69	VHM	
C. DIVERSITY OF LEARNERS	5	4	3	2	1			
1. Determines, understands, and accepts the learner's diverse knowledge and experience.	9 (45)	5 (20)	1 (3)	0	0	4.53	VHM	8
2. Obtains information on the learning styles, multiple intelligences and needs of learners.	12 (60)	2 (8)	1 (3)	0	0	4.73	VHM	2.5
3. Designs or selects learning experiences suites to different kinds of learners.	11 (55)	4 (16)	0	0	0	4.73	VHM	2.5
4. Establishes goals that define appropriate expectations for all learners.	10 (50)	4 (16)	1 (3)	0	0	4.60	VHM	5.5
5. Paces lessons appropriate to the needs and difficulties of learners.	10 (50)	4 (16)	1 (3)	0	0	4.60	VHM	5.5
6. Initiates other learning approaches for learners whose needs have not been met by usual approaches.	8 (40)	6 (24)	1 (3)	0	0	4.47	VHM	9
7. Recognizes multi-cultural background of learners when providing learning opportunities.	10 (50)	4 (16)	1 (3)	0	0	4.60	VHM	5.5
8. Adopts strategies to address needs of differently-baled students.	9 (45)	6 (24)	0	0	0	4.60	VHM	5.5
9. Makes appropriate adjustments for learners of different socio-economic backgrounds.	12 (60)	3 (12)	0	0	0	4.80	VHM	1
WM						4.63	VHM	
D. CURRICULUM	5	4	3	2	1			
1. Demonstrates mastery of the subject	11 (55)	4 (16)	0	0	0	4.73	VHM	4.5
2. Delivers accurate and updated content knowledge using appropriate methodologies, approaches, and strategies.	12 (60)	2 (8)	1 (3)	0	0	4.73	VHM	4.5
3. Aligns with lesson objectives the teaching	11 (55)	3 (12)	1 (3)	0	0	4.67	VHM	7

methods, learning activities, and instructional materials or resources appropriate to learners.								
4. Creates situations that encourage learners to use high order thinking skills.	12 (60)	3 (12)	0	0	0	4.80	VHM	2.5
5. Engages and sustains learners' interests in the subject by making content meaningful and relevant to them.	12 (60)	3 (12)	0	0	0	4.80	VHM	2.5
6. Integrates relevant scholarly works and ideas to enrich the lesson as needed.	13 (65)	2 (8)	0	0	0	4.87	VHM	1
7. Integrates content of subject area with other disciplines.	10 (50)	5 (20)	0	0	0	4.67	VHM	7
8. Makes good use of allotted instructional time.	7 (35)	8 (32)	0	0	0	4.47	VHM	9.5
9. Teacher selects teaching methods, learning activities and the instructional materials or resources appropriate to the learners and aligned to objectives of the lesson.	7 (35)	8 (32)	0	0	0	4.47	VHM	9.5
10. Selects, prepares, and utilizes technology and other instructional materials appropriate to the learners and the learning objectives.	10 (50)	5 (20)	0	0	0	4.67	VHM	7
WM						4.69	VHM	
E. PERSONAL AND PROFESSIONAL GROWTH	5	4	3	2	1			
1. Takes pride in the nobility of teaching as a profession	11 (55)	4 (16)	0	0	0	4.73	VHM	5.5
2. Maintains stature and behavior that upholds the dignity of teaching.	10 (50)	5 (20)	0	0	0	4.67	VHM	8
3. Allocates time for personal and professional development.	11 (55)	4 (16)	0	0	0	4.73	VHM	5.5
4. Allocates time for personal and professional development.	5 (25)	10 (40)	0	0	0	4.33	VHM	10
5. Articulates and demonstrates one's personal philosophy of teaching.	9 (45)	6 (24)	0	0	0	4.60	VHM	9
6. Keeps abreast with recent developments in education.	12 (60)	3 (12)	0	0	0	4.80	VHM	2.5
7. Keeps abreast with recent developments in education.	11 (55)	4 (16)	0	0	0	4.73	VHM	5.5

8. Improves teaching performance based on feedback from the mentor, students, peers, superiors and others.	13 (65)	2 (8)	0	0	0	4.87	VHM	1
9. Accepts personal accountability to learners' achievement and performance.	11 (55)	4 (16)	0	0	0	4.73	VHM	5.5
10. Uses self-evaluation to recognize and enhance one's strength and corrects one's weaknesses.	12 (60)	3 (12)	0	0	0	4.80	VHM	2.5
WM						4.70	VHM	
OVER-ALL AWM						4.68	VHM	

It is shown on the table that commitment along social regard for learning has the average weighted mean of 4.71 with the descriptive equivalent of very highly manifested. This implies that the respondents have commendable observations on work commitment along social regard for learning and that they highly believe that teachers need to abide the implemented school policies, exhibits that learning is of different kinds and comes from different sources and careful about the effect of one's behavior on students.

Frequently, employee motivation is influenced by their commitment to their job or career. Understanding work commitment is crucial for organizations. Factors such as an employee's involvement in their tasks (job involvement), belief in and dedication to the organization's goals and mission (organizational commitment), willingness to work (work ethic), and commitment to a particular career or profession all affect the organization's success. Simply put, employees who are engaged and committed provide organizations with important competitive advantages,

including increased productivity and reduced employee turnover. Hence, performance appraisal impacts directly onto highly emotional tasks in professional life, judgment of a person's commitment, and competence (Vimalendran, 2016).

For learning environment, the average weighted mean is 4.69 which is very highly manifested. The four indicators have the ranked and these are the creates an environment that promotes fairness, maintains a learning environment of courtesy and respect for different learners, provides gender-fair opportunities for learning and recognizes that every learner has strengths. These positive results show that there is good quality of learning environment that the teachers are experiencing which reinforce them to be productive mentors and proactive in one way or another.

A person's level of job satisfaction (Agrawal, R., & Gupta, V. (2021) can be influenced by both internal and external factors. Research shows that job satisfaction assessments vary in their focus on an individual's emotions (affective job satisfaction) versus their thoughts (cognitive job satisfaction). Job satisfaction profoundly impacts an individual's emotional and physical well-being, with higher satisfaction linked to lower levels of workplace stress, anxiety, and depression. Conversely, low job satisfaction is associated with problems like burnout and mental health issues. Key factors affecting job satisfaction include work environment,

compensation, job security, opportunities for career advancement, relationships with colleagues and supervisors, work-life balance, recognition, and the alignment of organizational culture with personal values.

In diversity of learners, the average weighted mean is 4.63 with descriptive equivalent of very highly manifested. Ranked 1 is makes appropriate adjustments for learners of different socio-economic backgrounds which explains that teachers are willing to accept and embrace adjustment to the different insights and face the learners without any reservation and this becomes the pivotal points where they entice these learners to establish better study habits and learn better. This implies that Teacher job satisfaction is shaped by both intrinsic and extrinsic factors, each playing a crucial role in how educators perceive and experience their work. Intrinsic factors include aspects inherent to the job, such as the sense of achievement, recognition, responsibility, and opportunities for professional growth. Teachers who find their work meaningful and feel valued are likely to experience greater job satisfaction (Arumugasamy, 2025).

In curriculum, the average weighted mean is 4.69 with the descriptive equivalent of very highly manifested. Ranked 1 states that curriculum integrates relevant scholarly works and ideas to enrich the lesson as needed. An integrated curriculum augments stand-alone

curricula by intermixing elements of subjects that are not normally combined. This approach draws on the root of the word integration, which is ‘integrate’ (i.e., to make whole), and focuses on the benefits of integrating mathematics and science, a process that involves helping students make links between these disciplines and the students’ worlds.

Teachers are also known as educators and curricular experts. Teachers are widely recognized as educators who facilitate the learning process by planning and delivering lessons, assessing student progress, and creating a supportive and inclusive classroom environment. They also act as curricular experts who design and adapt instructional materials to meet diverse student needs and align with educational standards. Beyond these roles, teachers serve as mentors, role models, and advocates for their students, contributing to their academic and personal development. In some contexts, teacher educators specifically focus on training and supporting student teachers to develop their professional skills. Thus, teachers encompass multiple roles including instruction, curriculum expertise, mentorship, and professional [professional](https://www.indeed.com/recruitment/job-description/teacher) (<https://www.indeed.com/recruitment/job-description/teacher>).

Additionally, Hawthorne (2022) argued that effective teachers possess strong subject-matter knowledge and apply effective instructional strategies. They are also skilled in working with diverse ethnic and cultural groups and demonstrate competencies in goal setting and

planning, developmentally appropriate teaching, classroom management, motivation, communication, assessment, and technology use. Being an effective teacher requires both commitment and motivation, which includes maintaining a positive attitude and genuinely caring for students. While it's common for teachers to sometimes fall into a rut and develop negative attitudes, such negativity can be easily detected by students and may hinder their learning.

Along personal and professional growth, the average weighted mean is 4.70 which is very highly manifested. It reflects that teaching performance is enhanced by actively integrating feedback from mentors, students, peers, superiors, and other relevant sources. This feedback enables educators to recognize their strengths and identify areas needing improvement, allowing them to make well-informed adjustments to their teaching approaches. Engaging in a continuous cycle of feedback fosters reflective practice, helps teachers respond effectively to students' learning needs, and improves overall instructional quality. Effective feedback is characterized by clear, specific guidance on what is working well, areas that require enhancement, and practical recommendations for improvement. This ongoing process supports professional development and ultimately leads to better student outcomes. The role of student voice in education is a topic of increasing importance and relevance in contemporary educational discourse. Recognizing students as active participants in their learning environments rather than passive recipients

is pivotal for fostering a more inclusive and effective educational system (Cook-Sather, 2016).

Teachers’ Work Commitment on Their Teaching Performance

Table 2

Extent of effect of CTELA teachers’ work commitment on their teaching performance (n=15)

Teaching Performance	5	4	3	2	1	WM	DE	R
1. Teachers become more inspired in teaching the lesson.	9	4	1	1	0	4.4	VGE	1
2. Teachers are more energetic and enthusiastic in performing their teaching tasks.	8	5	1	1	0	4.33	VGE	3
3. Instructional plans are updated and effectively implemented.	7	6	1	1	0	4.27	VGE	5
4. Teacher-administrator working relationship are strengthened.	6	7	1	1	0	4.2	GE	6
5. Classroom management activities are successfully carried out.	7	5	2	1	0	4.2	GE	6
6. Classroom routines and procedures are established to maximize use of time and instructional materials.	6	6	2	1	0	4.13	GE	9
7. Favoritism in giving grades is minimized or avoided.	4	6	3	2	0	3.8	GE	11
8. Lesson objectives, teaching methods, learning activities and instructional materials are aligned.	8	5	1	1	0	4.33	VGE	3
9. Teachers’ duties and responsibilities as public servants are religiously discharged or performed.	7	5	2	1	0	4.2	GE	6
10. Learners’ interests in the subject are engaged and sustained due to meaningful activities provided by a committed teacher.	9	4	1	1	0	4.4	VGE	1
11. Teachers become more patient in establishing a conducive teaching and learning environment.	6	6	2	1	0	4.13	GE	9
AWM						4.22	VGE	

Table 2 presents the extent of effect of CTELA teachers’ work commitment on their teaching performance.

The average weighted mean is 4.22 with the descriptive equivalent of very great effect. This implies that the extent of the effect of CTELA teachers' work commitment on their teaching performance is very significant and positively impactful. The researchers believed that teachers who demonstrate strong commitment are deeply motivated, highly dedicated to their profession, and take their teaching role seriously, which translates into higher quality teaching performance. The success of education depends on teachers' skills, knowledge, attitudes, and values, as well as their professional competence and commitment based on their responsibility for effective teaching (Mwesiga and Okendo, 2018).

Another indicator that has an impact or effect to the teachers' commitment is lesson objectives, teaching methods, learning activities and instructional materials are aligned which has the average weighted mean of 4.33 with the descriptive equivalent of very great effect. This implies that Their work commitment has a strong and authentic impact on teachers' performance. When teachers are committed, they more easily align lesson objectives, teaching methods, activities, and instructional materials. With sincere dedication, teachers feel more motivated to deliver lessons effectively and create a conducive learning environment, fulfilling their duties as public servants with diligence. High commitment inspires teachers to develop meaningful activities that enhance learning. Committed teachers tend to be more energetic and enthusiastic in carrying out their teaching responsibilities. Furthermore, sustained commitment

leads teachers to regularly create, update, and implement instructional plans effectively, knowing that without these plans, their efficiency would decline. Additionally, commitment fosters trust and strengthens the relationship between school heads and teachers, eliminating animosity and distrust.

Hence, it is very clear that (Day, 2011), teachers produce better results when they are committed to their work. He defines commitment as the degree of an individual's connection and loyalty to their organization, including the willingness to invest effort to advance the organization's goals and personal values.

Conclusions and Recommendations

The level of work commitment of the teachers is commendable and praiseworthy. attributed to the strong dedication and loyalty to their work, because of personal efficiency and confidence, motivation and passion, and positive work environment.

Hence, the teachers' work commitment has a great influence on their remarkable teaching performance. Education is one of the efforts to improve the quality of human resources. Therefore, teachers are at the forefront of implementing the teaching and learning process as well as being the spearhead in producing quality graduates. To achieve this, it is important to question the performance of teachers, because teacher

performance is the most important input in the implementation of education (Koswara and Rasto, 2023:65).

The research suggested that teachers are encouraged to nurture and sustain their favorable level of work commitment so that their learners can be greatly benefitted. It important to nurture and sustain a favorable level of work commitment because such commitment directly impacts their effectiveness and the benefits learners gain from the educational experience. Committed teachers show passion, invest emotionally, and continuously strive to use innovative teaching methods, all of which create a richer, more engaging learning environment that greatly benefits their students.

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**FIVE-YEAR ANALYSIS OF LET PERFORMANCE
AMONG BEED AND BSED GRADUATES OF CTELA**

An Institutional Research

Presented to the Research and Development Center

BAGUIO CENTRAL UNIVERSITY

Baguio City

Teresa Lyn D. Matiwtiw

Aiza Bheal M. Kitani

Samuel K. Neyney

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Abstract

This study analyzes the five-year Licensure Examination for Teachers performance of first-takers from the Bachelor of Elementary Education and Bachelor of Secondary Education programs at the College of Teacher Education and Liberal Arts, Baguio Central University, spanning 2020 to 2024. Employing a quantitative-descriptive research design, the study utilized official data from the Professional Regulation Commission to assess passing rates, benchmark CTELA's performance against national averages, and delineate overall trends. Findings consistently reveal that CTELA graduates significantly outperformed national passing rates across both degree programs, underscoring the importance of such comparisons in evaluating Teacher Education Institution effectiveness. Specifically, the BEEd program exhibited a discernibly upward trend, while the BSEd program maintained a stable and commendably high performance throughout the period. These results highlight CTELA's effective instructional quality, robust curriculum alignment with national standards, and comprehensive student support systems in preparing graduates for the LET. The study recommends strategic enhancements including strengthening existing review and mentoring programs, intensifying faculty development initiatives to align with evolving professional standards, utilizing data-driven academic monitoring for targeted interventions, and fostering a culture of peer and

social support to increase student confidence and test preparedness. These proactive measures are crucial for maintaining academic excellence.

Keywords: Licensure Examination for Teachers, LET performance trends, teacher education, CTELA graduates, First Takers

Introduction

Background of the Study

The Licensure Examination for Teachers serves as a critical standardized assessment for individuals aspiring to become professional educators in the Philippines, a requirement mandated by law. Overseen by the Professional Regulation Commission and governed by Republic Act No. 7836, also known as the Philippine Teachers Professionalization Act of 1994, the LET is meticulously designed to evaluate the essential knowledge, skills, and competencies required for effective teaching across both elementary and secondary education. This comprehensive examination assesses candidates across three pivotal domains: General Education, Professional Education, and their chosen Specialization (Abao et al., 2023).

The Licensure Examination for Teachers functions as the principal certification assessment that aspiring educators must successfully complete to enter the teaching profession in the Philippines. Beyond individual certification, the LET serves a critical role as a mark of quality

assurance designed to measure graduate outcomes and assess the overall knowledge and competencies of teacher education graduates, thereby establishing a national standard for the quality of teacher education programs offered by higher education institutions (Irene, 2023).

For institutions delivering teacher education, LET performance is a crucial metric for gauging the efficacy of instructional strategies, curriculum design, and student support systems (Quinco-Cadosales et al., 2023). A consistently high passing rate signifies that an institution is effectively preparing its graduates for the multifaceted challenges of teaching, indicating educational excellence (Quinco-Cadosales et al., 2023; Sinsay-Villanueva et al., 2025). Conversely, lower passing rates may highlight areas necessitating programmatic enhancements (Salendab et al., 2024; Sinsay-Villanueva et al., 2025). Research emphasizes the critical need for continuous improvement in teacher education programs, focusing on strategies to improve program delivery and align curricular offerings with national and global benchmarks, where LET performance is a key indicator of such advancement (Prado, 2025). Studies from 2020 to 2025 have identified various factors influencing LET performance, including curriculum quality, instructional effectiveness, faculty qualifications, student support services, professors' mastery of subject matter, and the quality of general education course content (Angeles, 2020; Quinco-Cadosales et al., 2023).

Institutional performance in the LET, particularly when benchmarked against national passing rates, offers significant insights into the strengths and potential weaknesses of teacher preparation programs (Abao et al., 2023; Generelao et al., 2021; Ombajin et al., 2021). The varied results in LET performance manifest the many factors that could affect such performance, and examining the relationship between LET performance and the characteristics of Higher Education Institutions aids in understanding program effectiveness (Abao et al., 2023; Generelao et al., 2021). Exceeding the national passing rate consistently demonstrates an institution's commitment to and achievement of educational excellence, strengthening its standing (Sinsay-Villanueva et al., 2025). Conversely, underperformance may trigger thorough evaluations and necessary programmatic revisions, serving as a basis for enhancing program strategies for better results (Ombajin et al., 2021; Salendab et al., 2024; Sinsay-Villanueva et al., 2025). Regulatory bodies, such as the Commission on Higher Education, utilize these benchmarks to categorize higher education institutions and assess their adherence to quality assurance standards (Prado, 2025; Sinsay-Villanueva et al., 2025). Failing to meet these standards can lead to severe consequences, including reduced student enrollment, as underperforming Teacher Education Institutions may struggle to attract students and are often dominated by higher-performing institutions (Sinsay-Villanueva et al., 2025). CHED has implemented various policies and guidelines to ensure the quality of teacher education, with ongoing reforms aiming to improve the overall

landscape of teacher education in the Philippines (Abao et al., 2023; Largoza & Fernandez, 2025).

Recognizing the central role of data-driven methodologies in advancing educational quality, scholars emphasize the critical need to leverage analytical insights from Licensure Examination for Teachers results to inform curriculum enhancements and pedagogical strategies (Gabio & Cajandig, 2025; Trevisan et al., 2024). Analyzing LET outcomes can guide necessary shifts in curriculum content and instructional approaches, ensuring that teacher education programs remain responsive to evolving national standards and assessment indicators (Irene, 2023). This data-driven approach contributes to effective curriculum implementation, which correlates positively with improved learner performance (Gesmund-Junio, 2025).

Quinco-Cadosales et al., (2023), consistently mentioned that faculty expertise, innovative curriculum design, and robust practical teaching experiences are paramount for enhancing LET pass rates. Specifically, professor qualifications and experience, coupled with high-quality services provided to students, significantly influence success in the licensure examination (Quinco-Cadosales et al., 2023). Furthermore, aligning the curriculum with LET standards is essential, as the passing of the LET largely depends on the Teacher Education Curriculum program's relevance and alignment with exam competencies (Irene, 2023).

Continuous professional development for teachers also plays a crucial role in improving instructional quality (Dicdiquin et al., 2023).

Modern teaching methodologies and the integration of technology-enhanced learning environments are also increasingly critical factors in preparing candidates for the LET. While direct causation to superior LET performance is still an area of ongoing research, technology-enhanced learning environments have been shown to improve student engagement and academic performance (Duterte, 2024). Digital tools and platforms are actively utilized in LET review and preparation strategies (Jesus & Balahadia, 2022). The necessity of technology integration means teachers must possess foundational pedagogical knowledge and digital competencies to navigate online platforms, create interactive content, and adapt instruction to emerging educational technologies (Balbuena & Napil, 2025; Segumpan et al., 2025). Teacher education institutions are increasingly recognizing the importance of faculty skills in integrating digital resources for learning (Alda et al., 2020).

Moreover, comprehensive support systems for teacher education students play a vital role in shaping LET outcomes. Studies indicate that institutions offering strong support services, such as review sessions and targeted interventions for repeaters, contribute to enhanced preparedness and outcomes (Salendab et al., 2024). Social support and expectancy have also been identified as predictors of LET success (Guardario et al., 2024).

While mental health literacy among faculty regarding student support is a recognized area of study (Satparam, 2023), the direct impact of mental health assistance on higher LET pass rates requires further specific investigation.

This study seeks to evaluate the five-year trend of LET performance among CTELA graduates from 2020 to 2024, recognizing how significant these factors are. This analysis will take a closer look at the yearly pass rates and how they relate to the national passing rates during the same time frames. The study aims to look at these trends to pinpoint where the CTELA program excels and where there's room for growth.

This initial research question looks at how the yearly LET pass rates of CTELA graduates, first takes, stack up against the national LET passing rate from 2020 to 2024. This is important because the national passing rate acts as a standard that shows how well teacher education graduates are doing across the country. This study will look at CTELA's performance compared to the national average, offering a glimpse into how effectively the institution is equipping its graduates for the realities of a teaching career. If CTELA consistently surpasses the national passing rate, it would strengthen the institution's standing for educational excellence. If CTELA is lower than the national rate, it could suggest that some changes or support might be necessary for the program.

This second research question looks into how LET performance has changed over the past five years. Analyzing trends is essential for spotting patterns of growth or decline in the performance of CTELA's graduates. The study will offer important insights for institutional decision-making by looking at whether the pass rates have gone up, down, or stayed the same. This analysis can assist CTELA in understanding how recent changes in curriculum, faculty development, or student support systems have affected graduate outcomes, whether in a positive or negative way. If a downward trend is noticed, the institution might want to take a closer look at its curriculum design or consider offering more support for students getting ready for the LET.

Ultimately, the study aims to offer practical solutions for improving or sustaining the Licensure Examination for Teachers results of first-takers among CTELA graduates. Maintaining consistent and high performance is essential, not only for enhancing the reputation and standing of institutions but also for cultivating a cadre of skilled educators who will profoundly influence the future of education in the Philippines (Abao et al., 2023; Dubash et al., 2020; Gabasa & Raqueño, 2021).

The effectiveness of teacher education programs is directly reflected in their graduates' performance in licensure examinations (Quinco-Cadosales et al., 2023). Strong performance on the LET signifies an institution's successful alignment of its offerings with national standards

and its commitment to quality teacher preparation (Abao et al., 2023; Darling-Hammond, 2020). This directly contributes to institutional accountability and impacts how teacher education programs are perceived and supported (Darling-Hammond, 2020; Spina et al., 2022).

Focusing on strategies to improve LET outcomes, such as curricular enhancements, robust instructional quality, and targeted support systems, can make contribute to the continuous development of teacher education programs. This, in turn, directly impacts the quality of teaching and learning in the country, fostering the growth of competent professionals vital for advancing the educational structure of the Philippines (Ahmed et al., 2025; Dubash et al., 2020; Faseel & Siddiqui, 2025).

Statement of the Problem

The study sought to assess the five-year trend of the LET performance among the BEED and BSED of CTELA.

What are the passing rates of first-takers among CTELA graduates in the LET, and how do these compare to the national passing rates for first-takers along with the degree:

a. BEED

b. BSED

2. What is the overall trend (upward, downward, stable) in the five-year LET performance of CTELA first takes along with the degree program:

a. BEED

b. BSED

3. What are the ways to enhance or maintain the LET result of the CTELA graduates?

1.3. Hypothesis

There is no significant upward or downward trend in the five-year LET passing rates of CTELA graduates from 2020 to 2024, indicating a stable performance.

1. 4 Theoretical and Conceptual Framework

This study examines the Licensure Examination for Teachers (LET) performance of CTELA graduates using two primary theoretical lenses: Program Evaluation Theory and Assessment for Learning Theory. This study examines the Licensure Examination for Teachers performance of CTELA graduates through the primary theoretical lenses of Program Evaluation Theory and Assessment for Learning Theory. These theoretical frameworks are crucial for systematically evaluating the effectiveness of CTELA's teacher education programs, assessing their alignment with national benchmarks, and identifying specific areas requiring improvement (Awad & Almhosen, 2023; Irene, 2023).

Evaluation Theory

Program Evaluation Theory (Rossi, Lipsey, & Freeman, 2004) provides a framework for systematically assessing the effectiveness of

programs in achieving their intended outcomes. This theory is based on the evaluation of inputs (such as curriculum, faculty, and resources), processes (instructional methods, support services), and outcomes (student performance on assessments like the LET). In relation to the research questions, this theory will be applied to assess how well the inputs and processes at CTELA are translating into successful LET outcomes. Comparing CTELA's yearly pass rates to the national passing rates will provide insights into the effectiveness of the institution's teacher education program relative to other institutions, offering a benchmark for evaluating its quality and performance. In addition, it will also help assess whether there has been an improvement, decline, or stability in pass rates over time. This theory will guide the analysis of whether changes in CTELA's curriculum, faculty development, or other program elements have influenced the LET outcomes over the five-year period, allowing for the identification of patterns and areas where improvements or declines have occurred.

Assessment for Learning Theory

Assessment for Learning Theory (Stiggins, 2005), meanwhile, focuses on the role of assessment as a tool not just for measuring student performance, but for enhancing learning and informing instructional practice. This theory emphasizes that assessments like the LET should provide meaningful feedback that can guide both student learning and program development. This theory helped explain how the LET results

can be used to identify strengths and weaknesses in different areas of the curriculum. Using LET performance data, the institution can adjust its teaching strategies and curriculum to address areas where students consistently underperform, ensuring that future graduates are better prepared for the exam. Moreover, this theory was applied to assess how the LET results can provide actionable feedback for improving both student learning and program quality. This theory will guide the analysis of subject-specific performance, helping to determine whether the LET is highlighting areas where the curriculum needs to be adjusted or where students require additional support. The focus on using assessments to improve learning outcomes will be essential for interpreting areas of low performance and suggesting ways to enhance CTELA’s program.

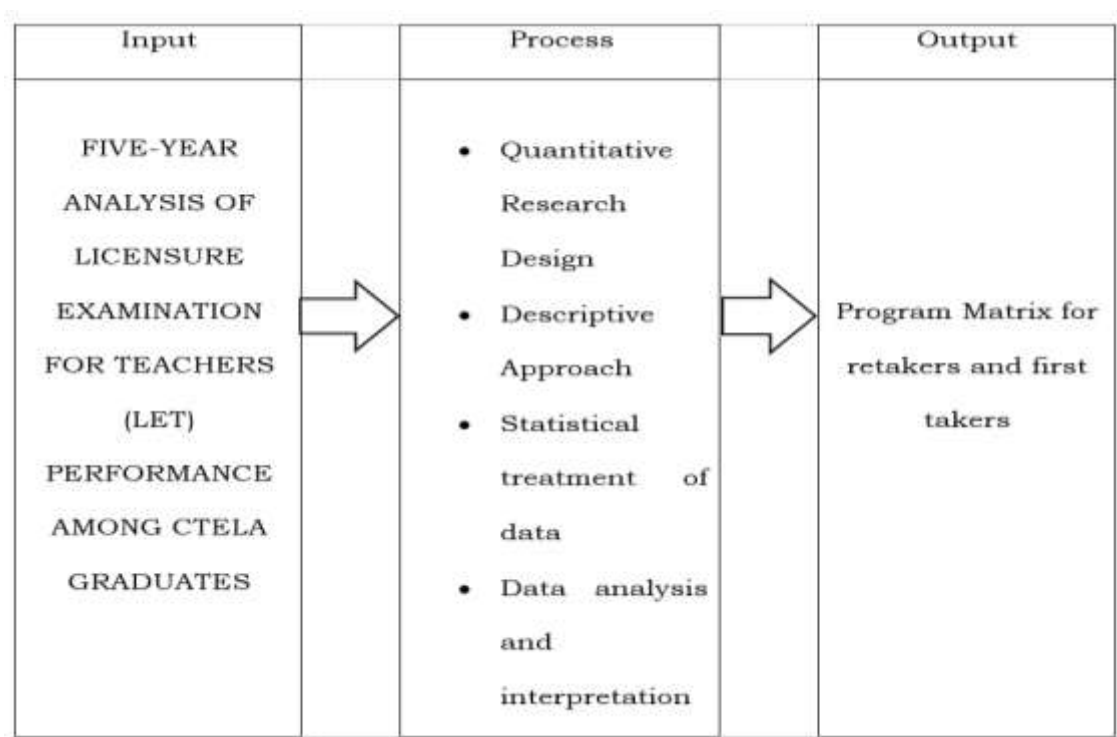


Figure 1.1 The Paradigm of the Study

Figure 1.1 The input variable is the five-year analysis of LET performance among BEED and BSED of CTELA. The process variables are

quantitative research design, , descriptive approach, statistical treatment of data, and data analysis and interpretation. The output variable is a program Matrix for reatkers and first takers.

Methodology

2.1. Locale and Population

The study was conducted at Baguio Central University, specifically focusing on graduates from the College of Teacher Education and Liberal Arts. The population of interest consisted of graduates from the Bachelor of Elementary Education and Bachelor of Secondary Education programs who took the Licensure Examination for Teachers between the years 2020 and 2024. Included were those First Takers only.

There were 76 elementary first takers and 187 secondary first takers who took the LET from September 2021 to September 2024. Additionally, it was important to note that not all students who graduated in a given year may have taken their LET exam immediately following graduation. Some graduates may have chosen to take the exam in subsequent years or may have delayed taking it for personal reasons.

2.2. Research Design

This study employed a quantitative-descriptive research design. According to Williams (2007), quantitative research involves the

collection and analysis of numerical data to describe, explain, predict, or control variables of interest. It uses measurable data to formulate facts and uncover patterns in research. The descriptive approach, on the other hand, aims to systematically describe a phenomenon as it exists, without manipulating any variables (Nassaji, 2015).

In this study, the design was deemed appropriate because it sought to describe and analyze the performance of CTELA graduates in the Licensure Examination for Teachers (LET) using existing data. The study specifically aimed to determine the passing rates of first-time takers among CTELA graduates in the Bachelor of Elementary Education (BEED) and Bachelor of Secondary Education (BSED) programs, compare these with the national passing rates, identify the five-year performance trend, and propose ways to enhance or maintain LET results. As Bhandari (2022) notes, descriptive research is useful when the goal is to provide an accurate portrayal of current characteristics or trends in a given group or setting. The use of a quantitative-descriptive design allowed the researchers to provide an objective and systematic assessment of the LET outcomes and to generate evidence-based recommendations for maintaining or improving the performance of future CTELA graduates.

2.3. Limitation of the Study

This study focused on the LET performance of graduates from CTELA at Baguio Central University (BCU). The findings will be specific to this particular context, yet the trends and insights that will be collected may offer valuable implications for other teacher education programs. This research highlights specific strengths and weaknesses in LET performance, providing meaningful insights for similar programs or institutions as they work on their curricula, train faculty, and improve student support systems. The findings will come from data gathered at BCU, focusing on student performance in certain subjects, the support provided to students, and strategies for faculty development. These insights could potentially benefit other teacher education institutions across the Philippines, contributing to national efforts to improve the quality of teacher preparation.

This study draws on data collected from the Professional Regulation Commission (PRC). Any discrepancies or inaccuracies in the PRC records are beyond the researchers' control and may affect the outcomes. The categorization of first-time takers and repeaters will depend entirely on the records provided by the PRC. Additionally, external factors such as the COVID-19 pandemic probably impacted LET performance, particularly in 2020 and 2021, influencing the overall trends. These factors are acknowledged but cannot be controlled within the scope of the study. While these factors might limit the study's scope, efforts will be

made to thoughtfully interpret the data and tackle these challenges whenever possible.

2.4. Data Gathering Instrument

The primary data gathering instrument for this study was the official Licensure Examination for Teachers results, directly obtained from the Professional Regulation Commission for the years 2020 to 2024. These yearly summaries served as the foundational data for analyzing the performance of CTELA graduates. The LET results included critical information such as the yearly pass rates and the overall pass/fail status of each graduate

The results were organized to distinguish between first-time takers and repeaters, a crucial differentiation for understanding performance trends. Additionally, the data was categorized based on the graduates' degree programs, specifically the Bachelor of Elementary Education and Bachelor of Secondary Education programs. This structure allowed the study to make meaningful comparisons across years, degree programs, and between first-time and repeat test takers. Furthermore, as the data provided only overall yearly summaries and not subject-specific scores, the analysis focused on overall performance rather than detailed subject-specific performance over the five-year period.

2.5. Treatment of Data

The LET results were categorized by year (2020 to 2024), degree program (BEED and BSED), and by first-time takers and repeaters. This structured categorization allows for detailed comparisons and trend analysis across multiple variables.

A trend analysis was performed to examine the yearly passing rates of CTELA graduates compared to national passing rates. To visualize these trends, a line graph will be created, and a linear regression analysis will be used to assess whether the trend over the five-year period is upward, downward, or stable. The formula for linear regression is:

$$y=mx+b$$

Where:

y is the passing rate,

x is the year,

m is the slope (indicating the rate of change), and

b is the intercept.

A positive slope indicates an upward trend, a negative slope indicates a downward trend, and a slope near zero suggests a stable trend (Montgomery et al., 2019). This trend analysis provides a clear understanding of how the performance of CTELA graduates has evolved over time.

2.6. Data Gathering Procedure

The data gathering process for this study began with securing the necessary approvals and permissions from relevant authorities. First, the researchers obtained formal approval from Baguio Central University and the College of Teacher Education and Liberal Arts to conduct the study. Additionally, to access the official Licensure Examination for Teachers results for CTELA graduates, permission was secured from the Baguio Central University registrar's office, as the Professional Regulation Commission had furnished a copy to the BCU registrar. Furthermore, approval from the research ethics committee of BCU was obtained to ensure that the study adhered to established ethical standards, particularly regarding data confidentiality and the responsible use of institutional data.

Once permissions were granted, the researchers collected the official LET results for CTELA graduates for each year from 2020 to 2024. The data was categorized into two groups: first-time takers and repeaters, to allow for a comprehensive analysis of performance trends. The collected data was securely stored and organized for analysis to ensure that it remained accurate and reliable throughout the study.

2.7. Ethical Considerations

This study is committed to upholding ethical standards that prioritized the rights of participants and maintained the trustworthiness of the research process. We ensured that all participants in the qualitative

phase, including graduates who shared their insights, provided informed consent. Participants received clear information regarding the study's purpose, objectives, procedures, and any potential risks involved. Joining the study was completely up to them, and they always had the option to step back whenever they wished, without any repercussions.

The study made sure that confidentiality and anonymity were upheld. We ensured that personal information, such as names and identifying details of the participants, remained confidential and was not shared in any part of the research. We made sure that all data was anonymized and stored securely, keeping it safe from unauthorized access and protecting individual identities during the study.

When it came to managing data, any institutional records needed for verification were accessed with permission from Baguio Central University. The study followed all institutional and legal guidelines related to how data was used and shared.

Ultimately, openness and honesty steered every part of the research, as the researchers committed to reporting the data accurately and fairly, ensuring that the findings were used thoughtfully to enhance CTELA's teacher education program.

Results and Discussions

Passing Rates of First-Takers (BEEd and BSEd)

The results of the Licensure Examination for Teachers show a consistent pattern of strong performance among CTELA graduates compared with the national passing averages. From 2021 to 2024, CTELA’s first-takers in both the Bachelor of Elementary Education and Bachelor of Secondary Education programs achieved passing rates that generally exceeded the national rates. This sustained outperformance highlights the effectiveness of TEIs in preparing graduates for the professional licensure exam, particularly when they implement robust programs and support systems.

TEACHER EDUCATION						
ELEMENTARY LEVEL						
YEAR	MONTH	First Takers		Over-all		National
		No.	%	No.	%	
2024	March	7	87.50	9	50.00	46.70
	September	7	77.78	7	31.82	45.53
2023	March	6	66.67	9	42.86	40.77
	September	12	75.00	15	62.22	47.01
2022	January	0	0.00	3	27.27	56.90
	June	0	0.00	0	0.00	50.62
	October	33	84.62	41	65.08	54.45
2021	March	-	-	-	-	-
	September	11	78.57	11	78.57	55.96
2020	March	-	-	-	-	-
	September	-	-	-	-	-

For the Elementary level, CTELA graduates demonstrated remarkable performance across the covered years. In 2023, the first-taker passing rate reached 66.67% in March and 75.00% in September. In 2024, the rate further improved to 87.50% in March and 77.78% in September. These figures were notably higher than the corresponding national passing rates, which stood at 40.77% in March 2023 and 45.53% in September

2024. The consistently higher first-taker rates indicate that CTELA’s BEEd program maintains a level of quality that surpasses the national average. This performance reflects the program’s emphasis on pedagogical competence and its strong preparation of graduates for professional teaching.

SECONDARY LEVEL						
YEAR	MONTH	First Takers		Over-all		National
		No.	%	No.	%	
2024	March	15	83.33	24	63.16	58.78
	September	33	80.49	39	58.21	56.89
2023	March	23	82.14	27	50.00	46.95
	September	22	73.33	31	55.36	56.27
2022	January	0	0.00	6	31.58	54.29
	June	0	0.00	0	0.00	50.50
	October	73	69.52	86	57.72	50.94
2021	March	-	-	-	-	-
	September	21	72.41	21	72.41	57.77
2020	March	-	-	-	-	-
	September	-	-	-	-	-

For the Secondary level, CTELA’s performance also showed a positive trend. In 2023, first-takers recorded 82.14% in March and 73.33% in September. These improved slightly in 2024, when first-takers achieved 83.33% in March and 80.49% in September. These results again surpass the national rates, which were 46.95% in March 2023 and 56.89% in September 2024. The strong showing of CTELA’s BSEd graduates suggests that the college effectively equips its students with the competencies required for secondary-level teaching.

Comparing both degree programs, BEEd and BSEd graduates from CTELA consistently outperformed the national passing averages for first-takers. The BEEd graduates’ performance advantage over the national

average was particularly notable in 2024, where their first-taker passing rate was nearly double the national figure of 46.70%. Similarly, BSEd graduates' results in both March and September 2024 remained significantly higher than the national rates, reinforcing the idea that CTELA's teacher education curriculum and review mechanisms are effective in supporting licensure readiness.

Across the years, CTELA's first-taker results reveal a pattern of stability and excellence despite fluctuations in cohort size. These findings are consistent with academic observations that teacher education institutions that integrate rigorous field experiences, strong mentoring systems, and institutional support tend to outperform national averages in LET results.

The national trend, shows that the overall passing rate for elementary first-takers hovers around 45%, while for secondary first-takers it remains around 56%. In contrast, CTELA's first-takers consistently posted passing rates between 70% and 87%, showing a clear and sustained edge. This significant gap underscores the strength of CTELA's academic programs and its commitment to maintaining high teaching standards.

This finding implies that CTELA's teacher education curriculum, faculty quality, and student support mechanisms are effectively aligned

with the competencies measured by the LET (Irene, 2023; Quinco-Cadosales et al., 2023). The strong performance of first-takers reflects the institution's success in equipping its students with both content mastery and pedagogical proficiency—two essential dimensions of teacher readiness. Furthermore, the consistent superiority of CTELA's passing rates over national figures suggests that the college maintains rigorous academic standards and an effective pre-board preparation system that helps students internalize core teaching competencies before taking the licensure examination (Gabasa & Raqueño, 2021; Delos Angeles, 2020).

The results also imply that CTELA's success in the LET may be linked to its robust instructional and mentoring practices. Academic performance, particularly students' general weighted average, strongly predicts LET outcomes among education graduates (Abao et al., 2023; Dela Rosa & Vargas, 2021). This supports the idea that CTELA's internal academic rigor and formative assessments contribute to students' licensure success. Similarly, studies identify strong academic backgrounds, quality instruction, and mastery of subject matter as significant predictors of LET results, which resonates with CTELA's emphasis on practical teaching exposure and supervised field experiences (Delos Angeles, 2020; Olvido et al., 2024). These findings indicate that effective mentoring, continuous assessment, and experiential learning may be critical institutional practices that sustain high passing rates.

Moreover, the differences in LET performance between the BEEd and BSEd programs corroborate previous studies showing variability across degree programs and specializations. Abao et al. highlighted that BEEd and BSEd graduates often exhibit distinct performance trends, influenced by specialization, curriculum design, and faculty qualifications. CTELA's higher first-taker passing rates for both programs align with these findings and demonstrate that when curricular content and licensure requirements are closely integrated, graduates tend to perform better in national examinations (Irene, 2023; Dela Rosa & Vargas, 2021).

Another implication concerns faculty competence and institutional support. Balanquit, Ladia, and Nool discovered that institutions with a higher proportion of graduate-degree faculty members tend to produce better LET outcomes. This finding suggests that CTELA's faculty qualifications and their professional engagement may have played a vital role in maintaining its consistently strong licensure performance. By ensuring that its faculty members possess both pedagogical expertise and advanced academic credentials, CTELA likely enhances its instructional delivery and mentoring systems.

Finally, the results highlight the importance of sustaining CTELA's data-driven decision-making and continuous improvement processes. While its performance exceeds national standards, periodic dips in

passing rates across some examination periods indicate that certain cohorts may face academic or motivational challenges. Maintaining high LET performance requires not only curriculum quality but also institutional mechanisms that identify and support students at risk of underperformance (Delos Angeles, 2020; Generelao et al., 2021). Therefore, CTELA should continue to analyze performance data, strengthen its review programs, and foster a culture of reflective practice among faculty and students. Doing so will ensure that the institution not only maintains but also improves its exemplary performance in the national licensure examinations.

Overall, these results reinforce CTELA's status as a high-performing teacher education institution. The strong outcomes affirm that its strategies, anchored on quality instruction, competent faculty, and comprehensive pre-board support, are producing well-prepared graduates ready to enter the teaching profession. These findings echo the broader literature asserting that when teacher education programs are academically rigorous, well-aligned with licensure competencies, and adequately supported by institutional systems, graduates consistently outperform national benchmarks in the LET (Abao et al., 2023; Delos Angeles, 2020; Irene, 2023; Quinco-Cadosales et al., 2023).

Five-Year Trend of LET Performance (BEEd and BSEd)

For the BEEd program, the overall pattern demonstrates a gradually upward trend with observable fluctuations influenced by the small and varying number of first-takers each year. Between 2020 and 2024, BEEd examinees ranged from as few as six to as many as twelve, and despite this modest cohort size, their passing rates consistently surpassed the national average for elementary-level first-takers. The upward movement in recent years suggests improved program implementation and strengthened preparation strategies. However, the slight declines in some periods (such as March 2023 at 66.67%) reflect the sensitivity of percentage outcomes to small sample sizes, where even one or two failures can significantly alter the rate. This pattern explains how institutional performance in licensure exams can be strongly affected by cohort size and consistency in academic preparation. Overall, the BEEd trend reveals steady growth in first-taker success, implying that recent curriculum revisions, intensified review programs, and faculty mentoring efforts have positively influenced licensure outcomes.

For the BSEd program, the trend indicates a generally stable performance with subtle upward movements over the same five-year period. Compared to the BEEd track, the BSEd program had a larger pool of examinees which provides a more stable statistical basis for interpreting the results. Despite having more takers, CTELA's BSEd passing rates consistently remained high and remained well above the

national average for secondary-level first-takers. The relative consistency of these results suggests that CTELA's secondary education curriculum effectively equips students with the subject matter expertise and pedagogical competencies measured in the LET. Stability in licensure performance among larger cohorts often reflects the institutional maturity of a teacher education program, strong faculty qualifications, and consistent pedagogical alignment with licensure standards (Olvido et al., 2024; Generelao et al., 2021).

Comparing both degree programs, the BEEd trend demonstrates moderate upward growth, while the BSEd trend reflects high and stable performance over time. The distinction may be attributed to differences in cohort size and specialization demands; BEEd programs typically have fewer enrollees and therefore experience greater percentage volatility, while BSEd cohorts, being larger, tend to show steadier patterns. These findings explain that teacher education programs with sustained curriculum alignment and strong faculty mentoring systems exhibit more consistent licensure performance. Furthermore, institutions that integrate targeted review programs and competency-based assessments experience steady or improving trends in LET results, a description that aligns with CTELA's performance over the past five years (Fiscal & Roman, 2022; Cruz et al., 2018).

Taken together, the trend analysis reveals that both CTELA programs are performing above national standards and are either stable or improving in licensure outcomes. The BEEd's gradual upward trajectory highlights significant progress in preparing elementary education graduates for the LET, while the BSEd's steady pattern underscores the enduring strength of CTELA's secondary education program. When viewed alongside the number of first-takers, these results emphasize CTELA's capacity to maintain high-quality instruction and effective licensure preparation across varying cohort sizes further affirming the institution's reputation as a consistently high-performing teacher education provider.

Ways to Enhance or Maintain LET Results

The consistent and improving LET performance of CTELA graduates highlights the effectiveness of its teacher education programs, but sustaining and further enhancing this success requires continuous refinement of instructional and assessment strategies. Strengthening the review and mentoring programs remains one of the most effective ways to maintain high licensure outcomes. Research by Abao et al. and Cruz et al. revealed that structured LET review programs integrated into the curriculum significantly improve graduates' readiness and test confidence, leading to sustained passing rates. CTELA can institutionalize subject-based LET reviews and formative assessments across all year levels to ensure early mastery of competencies measured

in the licensure exam. Fiscal and Roman further emphasize the predictive power of pre-licensure examinations, supporting the value of such formative assessments.

Another crucial strategy involves enhancing faculty development and instructional alignment with LET competency areas. Faculty members must continually update their pedagogical and content knowledge to align with the evolving Professional Regulation Commission test specifications, a process supported by continuous professional development initiatives. According to Irene and Quinco-Cadosales et al., institutions that encourage continuous professional learning and outcomes-based teaching among faculty show greater consistency in licensure performance. CTELA can implement regular teaching effectiveness evaluations, peer mentoring, and LET-focused pedagogical workshops to maintain curriculum relevance and enhance the quality of instruction.

Further, the integration of data-driven monitoring systems can help track students' academic performance and predict licensure readiness. Studies by Delos Angeles, Dionio, Fiscal and Roman, and Gabasa and Raqueño confirmed that using performance analytics, including mock LET results and pre-licensure examination scores, as predictors can identify at-risk students early and allow for targeted intervention. CTELA can develop an internal performance dashboard that tracks student

achievement across professional education and major subjects, enabling instructors to provide personalized support and implement timely academic interventions.

Additionally, maintaining a strong partnership with alumni and LET passers can enhance motivation and real-world preparation for current students. Alumni who recently passed the LET can share insights, conduct mock interviews, or mentor reviewees—activities that have been shown to increase student confidence and test preparedness (Guardario et al., 2024; Villanueva & Sumayo, 2021). This mentorship culture reinforces camaraderie and sustains the institutional tradition of excellence, offering valuable perspectives from those who have successfully navigated the licensure process.

From a program management perspective, it is also essential to institutionalize quality assurance mechanisms such as regular curriculum reviews, board examination performance analysis, and PRC alignment checks. Consistent with the findings of Edullantes and Balaoing and Prado, institutions that engage in continuous curriculum evaluation and alignment with licensure outcomes tend to demonstrate higher and more stable board exam results. CTELA can strengthen its internal assessment committees to ensure that both BEEd and BSEd courses remain outcomes-based and competency-driven, thereby ensuring the curriculum remains relevant and effective.

The implications of these findings are clear: sustaining CTELA's LET performance depends on a proactive, evidence-based, and collaborative institutional approach. The combination of continuous faculty development, data-supported instruction, enhanced review programs, and alumni engagement creates a reinforcing system that promotes licensure success. As Abao et al. and Dionio emphasized, the capacity of a teacher education institution to adapt its instructional and assessment practices to the evolving demands of the LET serves as a reliable predictor of its long-term academic excellence.

Conclusions and Recommendations

Conclusions

1. The CTELA graduates consistently achieved passing rates above the national average for both BEEd and BSEd programs, demonstrating the institution's strong academic preparation and effective licensure review practices. These results confirm that CTELA's instructional quality and student support systems contribute significantly to graduates' success in the LET.
2. The BEEd program showed a generally upward trend with slight fluctuations due to small cohort sizes, while the BSEd program exhibited a stable and consistently high performance. This trend indicates continuous institutional improvement and the sustainability of quality teacher preparation at CTELA.

3. The maintenance and enhancement of CTELA’s LET performance can be achieved through strengthened review programs, continuous faculty development, data-driven academic monitoring, and active alumni mentoring. These strategies ensure that CTELA remains responsive to licensure demands and sustains its reputation for producing competent and board-ready teacher graduates.

Recommendations

1. CTELA should sustain its high performance by institutionalizing regular LET-focused review sessions, enhancing content mastery through mock board exams, and strengthening faculty mentoring programs to ensure consistent preparation for all first-takers.

2. CTELA should continue monitoring yearly LET trends and address performance variability through data-based interventions, such as identifying low-performing subject areas and providing targeted enrichment activities to sustain or further improve licensure outcomes.

3. CTELA should implement a comprehensive enhancement plan that includes faculty development workshops, alumni-led review collaborations, integration of predictive academic analytics, and periodic curriculum evaluation to ensure that teaching and assessment strategies remain aligned with current LET standards

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COMMUNITY FEEDBACK IN THE NATIONAL SERVICE TRAINING PROGRAM (NSTP) ACTIVITIES

An Institutional Research

Presented to the Research and Development Center

BAGUIO CENTRAL UNIVERSITY

Baguio City

Cherrie Mae M. Manuel, CRS, CFMP, DBA

Engilbert D. Dela Pena, LPT

Michelle C. Alumno, LPT, PhD

Fely A. Cabrera, LPT

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Abstract

This study evaluated the activities implemented by National Service Training Program (NSTP) students in selected barangays of Baguio City during the academic year 2024–2025. Using a mixed-method approach, the researchers gathered quantitative data through a survey questionnaire and qualitative insights through interviews. Results revealed that NSTP activities were highly relevant ($\bar{x}=4.03$) and highly effective ($\bar{x}=4.64$) in addressing community needs and promoting local development. The majority of respondents (54.35%) reported being very highly satisfied with the program's outcomes, highlighting projects such as putting up signage, clean-up drives, and landscaping as particularly impactful. However, activities like medical missions were rated only moderately relevant ($\bar{x}=2.98$), suggesting overlap with existing health services. Thematic analysis of interview data produced recommendations for enhancing NSTP activities, emphasizing long-term partnerships, livelihood training, family-oriented programs, regular community consultations, and alignment of projects with genuine community needs.

Keywords: Community Needs, Relevance, Effectiveness, Satisfaction, Recommendations, NSTP Students

Introduction

Community service is an important part of education because it helps students grow socially, emotionally, and mentally. By participating in real-life activities, students learn more about society's problems and develop important skills like communication, empathy, and teamwork. A study by Afzal and Hussain (2020) found that students who took part in community service improved their ability to interact with others, became more understanding, and worked better in teams. This shows that learning through experience helps connect classroom lessons to real-world situations, making education more meaningful.

Adding community service to school programs, like the National Service Training Program (NSTP), helps students develop a strong sense of responsibility and awareness of social issues. When students take part in service activities, they better understand the needs of their communities and feel a greater sense of duty to help. Afzal and Hussain's research supports the idea that these experiences not only strengthen students' ties to their communities but also provide learning beyond textbooks. Through these activities, students grow both personally and academically, showing that education is not just about studying but also about being involved in society.

Hence, the National Service Training Program (NSTP) aims to instill civic consciousness and social responsibility among students by

engaging them in community service (Official Gazette, 2025). However, the effectiveness of these activities depends on how well they meet community needs and expectations.

Community satisfaction with outreach programs has been studied in different settings. Kim and Lim (2020) explored community health outreach and described it as a short-term program that brings people together to provide important health services. Their study identified the key elements that make these programs successful and how they affect community satisfaction. Similarly, Jenkins et al. (2022) reviewed 60 years of research on outreach programs in healthcare education. Their study focused on programs that support students from disadvantaged backgrounds. They found that while these programs are helpful, they also face challenges in planning and evaluation. Kumar and Dahiya (2024) studied outreach programs run by universities in India. They surveyed 158 student volunteers and found that most participants were happy with the efforts of their universities to engage with the community. These studies show that outreach programs can have a positive impact on communities and help improve their well-being when properly planned and managed.

In the Philippines, similar studies have examined community satisfaction with outreach programs, particularly in the education sector. Calimpos et al. (2023) conducted a study at a Catholic higher education institution to assess participants' awareness, involvement, motivation, and

challenges in community outreach. Their findings revealed that while awareness and motivation were high, involvement was only moderate, indicating the need for strategies to improve community engagement.

This development is also evident in Baguio City, where higher education institutions actively contribute to outreach efforts. The University of Baguio's Extension and Community Outreach Services (ECOS) promotes volunteerism through immediate and sustainable programs that address societal concerns, such as medical missions, environmental projects, and educational support. Similarly, Saint Louis University (SLU) implements various outreach activities, such as the "Adyo sa Baguio" initiative organized by the Rotaract Club of Baguio-School of Medicine in partnership with the Rotaract Club of Imus. This program, held in February 2024, provided medical consultations, hygiene education, and distributed essential items to underprivileged families, benefiting 180 individuals.

These outreach efforts in the Philippines, particularly in Baguio City, aligned with global studies on the positive effects of outreach programs. As seen in the research conducted in other countries, successful outreach initiatives require strong engagement, proper planning, and sustainable implementation. The commitment of higher education institutions to community engagement in Baguio demonstrates how localized outreach programs can foster positive relationships between

institutions and the communities they serve, ultimately leading to improved community satisfaction.

Several studies have identified key factors that influence the success of community engagement initiatives in the Philippines. A 2001 study by Pollnac, Crawford, and Gorospe examined 45 community-based marine protected areas in the Visayas region and found that active community participation in decision-making, ongoing support from implementing organizations, and inputs from local government were significant predictors of success (Pollnac et al., 2001). Similarly, a 2019 study by Villarojo et al. focused on Bachelor of Secondary Education-Social Studies students at the University of Bohol, revealing that individual factors, such as personal motivation and commitment, significantly influenced their involvement in community activities (Villarojo et al., 2019). These findings underscore the importance of active participation, continuous support, and individual commitment in achieving successful community engagement.

Beyond the Philippine context, international studies have also identified several key factors that contribute to effective community engagement. A rapid realist review by Greenhalgh et al. (2018) highlighted the importance of building trust, fostering mutual respect, and ensuring cultural sensitivity in engaging communities effectively. The study emphasized that recognizing and valuing local knowledge, as well

as facilitating genuine participation in decision-making processes, are crucial for meaningful engagement. Similarly, Holzer et al. (2021) explored strategies for community engagement adopted by research teams and identified areas for enhancing engagement in future projects. Their research underscored the significance of establishing dynamic relationships and dialogue, shared involvement, and decision-making between stakeholders.

Taken together, both local and international studies suggest that successful community engagement relies on a combination of active participation, institutional support, and personal commitment, as well as trust, respect, cultural sensitivity, and inclusive decision-making. By integrating these elements, organizations and communities can foster more effective and sustainable engagement efforts. Hence, looking into the perception of the community is relevant for better community engagement.

Through this study, it would benefit students, educational institutions, program implementers, and future researchers by providing insights into the effectiveness of NSTP activities and offering data-driven recommendations for improvement.

Theoretical and Conceptual Framework

Based on the Social Exchange Theory by Blau (1964), this study examines how satisfied the community is with National Service Training

Program (NSTP) activities. According to this theory, people base their relationships on a cost-benefit analysis, and community members weigh the advantages of NSTP activities against the expenses they believe they incur.

The study also makes use of the Service-Learning Theory by Kolb (1984), which emphasizes combining academic learning with community service, and the Community Participation Theory by Arnstein (1969), which highlights the value of community involvement in programs that impact them. The study investigates the connection between community needs, the perceived value of NSTP activities in meeting those needs, and general community satisfaction within this theoretical framework.

Important ideas include community needs, which stand for the uncovered requirements of the community; relevance of NSTP activities, which refers to the alignment between program objectives and community needs; and community satisfaction, which is the general positive or negative sentiments of residents toward NSTP activities. To make recommendations for improving the program's efficacy and impact, the study intends to comprehend how community satisfaction is influenced by the perceived relevance of NSTP activities in meeting needs in the community.

Purpose of the Study

The main purpose of this study is to evaluate how residents of communities perceive the usefulness and effectiveness of the activities implemented by the National Service Training Program (NSTP) students, assess their level of satisfaction with the program's contribution to their community's welfare, and identify areas where improvements can be made to better meet community needs.

According to the United Nations (n.d.), this study is primarily aligned with the Sustainable Development Goal (SDG) 4: Quality Education Target 4.7, which ensures that all learners acquire the knowledge and skills needed to promote sustainable development, including through education for global citizenship and community involvement. The NSTP fosters civic responsibility, community engagement, and social awareness among students, directly contributing to quality and transformative education.

Moreover, it is secondarily aligned to SDGs 11 and 17. SDG 11: Sustainable Cities and Communities Target 11.3 enhance inclusive and sustainable urbanization and participatory, integrated human settlement planning and management. NSTP activities often support community welfare, resilience, and sustainable local initiatives, improving the livability and social fabric of communities. While SDG 17: Partnership for the Goals Target 17.17 encourages and promotes effective public,

public-private, and civil society partnerships. The NSTP program promotes collaboration between universities, students, and local communities, embodying partnership for sustainable community development.

Statement of the Problem

The study aims to determine the level of community residents' perception and satisfaction regarding the relevance and effectiveness of the activities implemented by the National Service Training Program (NSTP) students, as well as to identify areas for improvement to better address the needs of the community.

Specifically, it aimed to answer the following questions:

- (1) What is the level of relevance of the NSTP activities conducted in addressing community needs?
- (2) What is the perceived effectiveness of NSTP activities in addressing community needs and development?
- (3) What is the overall level of satisfaction among community residents with the NSTP activities conducted? and
- (4) What recommendations can you give to enhance satisfaction in the NSTP activities?

Methodology

Research Design

A mixed-method approach combining quantitative surveys and qualitative interviews was used in this study. This method allows for a deeper exploration of a research question. Specifically, it would use the explanatory sequential design wherein it would collect first the quantitative data, followed by the qualitative data (Dovetail Editorial Team, 2023).

For the quantitative data, it was collected through the use of a survey questionnaire, while for the qualitative data, it was collected through individual interviews using the phenomenological research design, because it would explore and understand the perceptions of community members regarding the NSTP activities.

Locale and Population of the Study

This study focused on community residents who have participated in or benefited from NSTP activities provided by the NSTP 2 students during the second semester of the school year 2024 to 2025. It does not cover long-term socio-economic impacts.

The study was conducted in the barangays of Baguio City, where the NSTP students were deployed. For the quantitative part, the target population consists of community residents in 28 'barangays' who have

experienced NSTP activities. From these ‘barangays’, the researchers distributed the questionnaires to two (2) representatives from each area, yielding a total of forty-six (46) respondents who were knowledgeable and aware about the activities and projects implemented by the NSTP students. For the qualitative part, purposive sampling was used since there were certain criteria needed for the participants of the study, which consisted of 7 participants who gave their consent. According to Ahmed (2025), for a phenomenology study, the recommended sample size is 5 to 25 participants.

Data Gathering Tools

For research questions about the level of relevance of the NSTP activities in the community, and the level of satisfaction among community residents with the NSTP activities, the researchers utilized a self-made survey questionnaire with likert-scale questions. A likert survey questions often uses a declarative statement followed by a rating scale (James Madison University, n.d.).

While for the research question about the recommendations to enhance satisfaction in the NSTP activities, the researchers utilized an interview to help answer the research question and provide a comprehensive understanding of the phenomenon being studied. The researchers constructed an interview guide to avoid missing out any vital information during the interview. The questions were asked through open-

ended questions to allow the participants to elaborate and explain their point of view.

The researchers understand the importance of ensuring the validity and reliability of the survey questionnaire. To check the content validity of the questionnaire, it was presented to three experts in the field. Subsequently, it was tested on twenty respondents who would not be part of the study's respondents to check its reliability. The Cronbach alpha method was used to measure the correlation between different items in the instrument. After these processes, the tool was utilized to gather data.

Data Gathering Procedures

The researchers followed all the existing Baguio Central University research protocols. First, the researchers prepared a letter of permission to conduct the study from the President and Vice President for Academic Affairs of the said university. And, before starting the collection of data, the researchers have its tool validated and tested. Then, the researchers proceeded with the gathering of data.

For the quantitative data, a letter to the respondents was given with the self-made questionnaire which was administered personally to the respondents which took 10 to 15 minutes to answer. Once administered, the researchers retrieved the questionnaires, tallied, assessed, and interpreted its results.

Once the results of the survey questionnaires were analyzed, it proceeded with the collection of the qualitative data. Before that, a letter to the participants was presented personally. After confirming the willingness of participants to participate in the study, the researchers gave a copy of the informed consent. Once they have agreed and signed the informed consent form, the participants are oriented over the terms and conditions. The interview lasted approximately 15 to 20 minutes. Afterward, the data gathered were saved in a protected folder which will be used for research purposes only.

Treatment of Data

For the research questions about the level of relevance and satisfaction among community residents with the NSTP activities, statistical tools were utilized, specifically the frequency count, mean, and ranking. Moreover, a scale was developed with its corresponding verbal interpretation. For Part 1 of the questionnaire, which is the level of relevance of the NSTP activities and conducted in addressing community needs, a scale was developed with its corresponding verbal interpretation:

Numerical Value	Statistical Limits	Descriptive Equivalent	Symbol
5	4.21-5.00	Very Highly Relevant	VHR
4	3.41-4.20	Highly Relevant	HR
3	2.61-3.40	Moderately Relevant	MR
2	1.81-2.60	Slightly Relevant	SR
1	1.00-1.80	Least Relevant	LR

For Part 2 of the questionnaire, which is the perceived effectiveness of NSTP activities in addressing community needs and development, a scale was developed with its corresponding verbal interpretation:

Numerical Value	Statistical Limits	Descriptive Equivalent	Symbol
5	4.21-5.00	Strongly Agree	SA
4	3.41-4.20	Agree	A
3	2.61-3.40	Neither Agree nor Disagree	NAD
2	1.81-2.60	Disagree	DA
1	1.00-1.80	Strongly Disagree	SDA

For Part 3 of the questionnaire, which is the level of satisfaction among community residents with the NSTP activities conducted, frequency count was used.

While, for the qualitative data to be obtained as a result of the recommendations to enhance satisfaction in the NSTP activities, the data were analyzed using thematic analysis. Through this, themes come from codes, which are labels assigned to segments of text representing importing ideas. They go beyond simple keywords, capturing broader concepts that summarize what people are saying or experiencing (Perenara-Wilkinson, 2024).

Ethical Considerations

This study adhered to all relevant ethical guidelines and regulations set by the university. The researchers ensured that ethical principles were upheld during the research process.

Additionally, the researchers acknowledge the use of generative AI tools for authoring and editing the work, including QuillBot, Grammarly, and ChatGPT (Version: GPT-5, Source: OpenAI). AI support was used just to improve structure, coherence, and clarity by offering formatting recommendations, grammatical corrections, summary, text refining, and paraphrasing. The AI's function was restricted to improving language, though, and it won't help with data analysis or critical interpretation of results. The researcher's final manuscript will continue to be their exclusive creative output.

Results And Discussions

Level of Relevance of the NSTP Activities Conducted in Addressing Community Needs

Table 1 presents the level of relevance of the NSTP activities conducted in addressing community needs. It has been found that the NSTP activities conducted in addressing community needs are highly relevant ($\bar{x}$ =4.03). The findings indicate that the activities conducted by the NSTP 2 students strongly align with the community’s identified needs, priorities, and issues. Moreover, it met most of the expectations and objectives for community development. There may still be some areas for improvement, but overall, the NSTP activities are clearly beneficial and appropriate.

Moreover, Table 1 shows that putting up signages ranks first, which was categorized by the respondents as very highly relevant ($\bar{x}$ =4.57). It implies that this activity is extremely appropriate, timely, and beneficial to the residents; it closely aligns with what the community truly requires. Furthermore, the students were able to implement initiatives that produce tangible and functional outputs in the community. The installation of signages reflects the program's goal of fostering civic consciousness and community involvement among the youth. It shows that NSTP activities are not only educational experiences for students but also valuable contributions to community improvement. This further implies that NSTP implementers and coordinators successfully identified real and pressing community concerns and translated them into meaningful service projects. Hence, the high relevance rating indicates that such projects effectively address the community's needs while instilling social responsibility and active citizenship among the students.

Second in rank is the clean-up drive, which was also categorized by the respondents as very highly relevant ($\bar{x}$ =4.52). It implies that this activity effectively addressed one of the community's most pressing environmental concerns, sanitation and waste management. It's very high relevance rating suggests that residents recognized the activity's direct contribution to improving cleanliness, health, and environmental order in their area. Clean-up drives promote community participation, instill environmental awareness, and help reduce health risks caused by

accumulated waste or unsanitary surroundings. Also, through the student's involvement in the clean-up drive, they not only learned the value of community service but also became agents of positive change in promoting cleanliness and discipline among residents. The activity's strong alignment with community needs further indicates that the NSTP implementers designed projects that are both responsive and sustainable, addressing environmental issues that directly affect the people's quality of life. Thus, the very high relevance of the clean-up drive reflects NSTP's meaningful role in empowering communities while nurturing socially responsible youth.

Third in rank is the landscaping or gardening which was also categorized by the respondents as very highly relevant ($\bar{x} = 4.35$). It implies that this NSTP initiative significantly contributed to enhancing the community's physical environment and promoting ecological balance. Its very high relevance rating indicates that residents viewed the activity as beneficial not only for beautification purposes but also for environmental sustainability and community well-being. Landscaping and gardening projects often create cleaner, greener, and more inviting spaces, which can improve residents' sense of pride and ownership of their surroundings. In addition, by engaging students in gardening and landscaping efforts, the NSTP encourages them to appreciate the importance of maintaining public spaces and supporting ecological initiatives. Moreover, such activities align with the community's need for

environmental improvement and sustainable living practices, addressing issues such as a lack of green areas or poor maintenance of public spaces. Overall, the very high relevance of the landscaping or gardening activity demonstrates that the NSTP not only enhances the aesthetic appeal of the community but also instills among students the values of teamwork, environmental care, and social responsibility.

On the other hand, the checking of vital signs or organizing medical missions ranks last, which was categorized by the respondents as moderately relevant ($\bar{x} = 2.98$). It implies that while the activity was still beneficial, it was not considered a primary or pressing need of the community at the time of the assessment. The moderate relevance rating suggests that although the initiative addressed health concerns and contributed to the residents' well-being, it may have overlapped with other existing health services or programs already available in the area. One possible reason for this moderate rating is that nursing students undergoing their on-the-job training (OJT) were already conducting similar activities in the community. As a result, the residents might have perceived the NSTP-led medical mission as less necessary or redundant, given that their basic health needs were already being attended to. This insight can guide future NSTP initiatives to focus more on unmet needs or complementary interventions, ensuring that projects are both relevant and impactful. Overall, while the medical mission activity remains valuable, its moderate relevance highlights the need for continuous

assessment and alignment of NSTP projects with the most current and specific needs of the community.

Table 1

Level of Relevance of the NSTP Activities Conducted in Addressing Community Needs (n=46)

Level of Relevance of the NSTP Activities Conducted in Addressing Community Needs	Mean	Descriptive Equivalent	Rank
1. Clean-up Drive	4.52	Very Highly Relevant	2
2. Painting of Sidewalks or Waiting Sheds	4.17	Highly Relevant	5
3. Mural Painting	3.91	Highly Relevant	7
4. Landscaping or Gardening	4.35	Very Highly Relevant	3
5. Trashcan Project	4.26	Very Highly Relevant	4
6. Putting up Signages	4.57	Very Highly Relevant	1
7. Checking of Vital Signs or Organizing Medical Missions	2.98	Moderately Relevant	10
8. Tree Planting	3.70	Highly Relevant	9
9. Conducting Tutorials or Reading Programs for Children	3.76	Highly Relevant	8
10. Livelihood and Skills Training	4.11	Highly Relevant	6
Average Mean	4.03	Highly Relevant	

Perceived Effectiveness of NSTP Activities in Addressing Community Needs and Development

Table 2 presents the perceived effectiveness of NSTP activities in addressing community needs and development. It has been found that the respondents strongly agree ($\bar{x}$ =4.64) on the effectiveness of NSTP activities in addressing community needs and development. The findings indicate that the NSTP initiatives were successful in fulfilling their intended purpose of promoting civic consciousness, social responsibility,

and community empowerment. The strong agreement among respondents implies that the activities implemented, such as putting up signages, conducting clean-up drives, and organizing landscaping projects, were perceived as responsive, beneficial, and aligned with the community's priorities. This also suggests that the NSTP program has effectively bridged the gap between academic learning and community service, allowing students to apply their knowledge and skills in ways that produce tangible improvements within the community. Moreover, the positive perception reflects the strong collaboration between the university, the NSTP implementers, and the partner community, ensuring that activities are well-planned and relevant. In a broader sense, this finding implies that the NSTP serves as a significant catalyst for community development, fostering both student growth and societal well-being. It highlights the importance of sustaining and enhancing such programs through continuous needs assessment, stakeholder participation, and innovative service-learning approaches to maintain their relevance and impact.

In addition, Table 2 shows that the respondents strongly agree ($\bar{x}=4.78$) that the NSTP activities enhance awareness and participation in community service. This implies that the community recognizes the positive influence of NSTP initiatives in promoting active involvement and cooperation among residents. The high mean rating indicates that the activities conducted by the students have not only raised awareness about community issues but also encouraged residents to take part in local

development efforts. This finding suggests that NSTP programs serve as a catalyst for community engagement, empowering residents to become more conscious of their roles in maintaining cleanliness, promoting health, and protecting the environment. Through projects such as clean-up drives, landscaping, and information campaigns, community members are inspired to sustain the changes introduced by the students and continue collaborative efforts even after the NSTP activities have concluded. Overall, the result implies that NSTP activities create a ripple effect of social awareness and volunteerism, strengthening the partnership between the university and the community. It reflects that the program not only benefits the students but also mobilizes community members toward shared responsibility and collective action for sustainable development.

On the other hand, the respondents also strongly agree ($\bar{x}=4.50$) that NSTP activities promote local development through sustainable initiatives, which ranks last. It implies that while the community recognizes the positive contribution of NSTP projects to local development, they may perceive these initiatives as having a more short-term or limited impact compared to other activities. The strong agreement still reflects a favorable view, but the lower ranking suggests that there is room for improvement in ensuring continuity and sustainability of NSTP projects within the community. This finding indicates that NSTP activities have contributed to the immediate enhancement of the community environment and services, yet may require follow-up, monitoring, or

integration with local programs to maintain their long-term benefits. From the community’s perspective, sustainable development involves not only one-time interventions but also consistent engagement and capacity-building that empower residents to sustain projects independently. Overall, the result underscores that the NSTP plays an important role in initiating developmental changes, but future implementations should strengthen partnerships, promote continuity plans, and ensure that projects are institutionalized and community-driven to achieve lasting impact on local development.

Table 2

Perceived Effectiveness of NSTP Activities in Addressing Community Needs and Development (n=46)

Perceived Effectiveness of NSTP Activities in Addressing Community Needs and Development	Mean	Descriptive Equivalent	Rank
1. It positively impacted the development of the community.	4.67	Strongly Agree	3
2. It promotes local development through sustainable initiatives.	4.50	Strongly Agree	5
3. It enhances awareness and participation in community service.	4.78	Strongly Agree	1
4. It fosters a stronger relationship between students and the community.	4.70	Strongly Agree	2
5. It provides long-term benefits for the barangay.	4.57	Strongly Agree	4
Average Mean	4.64	Strongly Agree	

Overall Level of Satisfaction among Community Residents with the NSTP Activities Conducted

Table 3 presents the level of satisfaction among community residents with the NSTP activities conducted. It has been found that the

majority of the respondents (54.35%) are very highly satisfied with the NSTP activities conducted in their community.

The findings indicate that the community members hold a very positive perception of the NSTP program and its implementation. Their high level of satisfaction suggests that the activities were well-planned, relevant, and responsive to their actual needs and priorities. It also reflects that the projects carried out by the students were effective in creating meaningful and visible improvements in their locality. The result further implies that the NSTP activities successfully strengthened the partnership between the university and the community, fostering trust, cooperation, and mutual benefit. The high satisfaction rating also shows that the NSTP program is not only achieving its educational objectives but is also contributing tangibly to community development. This demonstrates that the community appreciates the students’ efforts and acknowledges the positive impact of their involvement. In a broader sense, this finding highlight that sustained collaboration, participatory planning, and relevance to local needs are key factors that lead to community satisfaction and support for NSTP initiatives, ensuring the program’s continued success and impact.

Table 3
Overall Level of Satisfaction among Community Residents with the NSTP Activities Conducted (n=46)

Overall Level of Satisfaction among Community Residents with the NSTP Activities	Frequency	Percentage	Rank
Very Highly Satisfied	25	54.35	1
Highly Satisfied	15	32.61	2
Moderately Satisfied	6	13.04	3
Slightly Satisfied	0	0	4.5
Not Satisfied at All	0	0	4.5
TOTAL	46	100	

Recommendations to Enhance Satisfaction in the NSTP Activities

Table 4 presents the recommendations to enhance satisfaction in the NSTP activities. Even if the majority of the respondents are very highly satisfied with the NSTP activities, as seen in Table 3. Some respondents are just highly and moderately satisfied; hence, recommendations from them are needed to achieve a higher percentage for very highly satisfied respondents. Several themes transpired in the study from the responses of the participants which are shown below:

Table 4
Recommendations to Enhance Satisfaction in the NSTP Activities (n=7)

Themes	Frequency N=7	Source of Information
Have a Long-term Partnership	7	Participants 1,2,3,4,5,6,7
Conduct Livelihood Training	7	Participants 1,2,3,4,5,6,7
Conduct Family-Oriented Activities	4	Participants 2,5,6,7
Conduct Regular Consultations/ Assessments	4	Participants 1,2,6,7
Align Activities with Real Community Needs	6	Participants 2,3,4,5,6,7

The analysis of the codes suggests that the recommendations to enhance satisfaction in the NSTP activities are to have a long-term partnership, conduct livelihood training, family-oriented activities, regular consultations or assessments, and activities with real community needs.

Have a Long-term Partnership

One of the themes that emerged from the participants' recommendations is the desire for "having a long-term relationship" between the university and the community. This reflects the community's aspiration for a sustained and continuous partnership rather than short-term or one-time outreach activities. The participants recognize the positive outcomes brought about by the NSTP initiatives and believe that maintaining a long-term engagement will lead to deeper understanding, stronger collaboration, and more meaningful impact on community development.

The community's recommendation suggests that they value the presence and involvement of the NSTP students and faculty, not only for temporary assistance but as consistent partners in addressing their evolving needs. A long-term relationship would allow both parties to co-develop sustainable programs, monitor progress, and evaluate the lasting effects of implemented projects. It would also promote trust, mutual respect, and shared accountability in pursuing common goals.

In this light, the community's call for a long-term relationship serves as a valuable recommendation for the NSTP implementers and the university administration to institutionalize linkages, conduct regular needs assessments, and design follow-up programs that build upon previous efforts. By doing so, the NSTP program can ensure continuity, sustainability, and lasting positive change, transforming community engagement from short-term service into a genuine partnership for development.

Conduct Livelihood Training

Another theme that emerged from the participants' recommendations is the need to "conduct livelihood training" in the community. This reflects the residents' desire for programs that will not only address their immediate concerns but also equip them with practical skills and knowledge for income generation and self-reliance. The community's suggestion highlights their recognition that sustainable development goes beyond short-term assistance; it involves empowering individuals to improve their economic condition and contribute to the overall progress of their locality.

Livelihood training aligns well with NSTP's objectives of promoting social responsibility and nation-building, as it allows students and partner institutions to help residents develop entrepreneurship, productivity, and financial literacy. Furthermore, conducting livelihood

training encourages active participation and collaboration between the university and the community. It creates a platform for knowledge exchange where students apply their learning while residents gain valuable skills for long-term benefit. This recommendation, therefore, implies that future NSTP initiatives should include livelihood-oriented projects that respond directly to the community's economic needs, ensuring that the partnership leads to empowered, self-sustaining, and resilient communities.

Conduct Family-Oriented Activities

The theme “conduct family-oriented activities” emerged as one of the key recommendations from the community participants. This reflects the residents’ desire for programs that strengthen family relationships, promote shared values, and encourage collective participation in community initiatives. The recommendation implies that families are seen as the foundation of community life, and activities that engage all members, parents, children, and youth, can foster unity, understanding, and cooperation within the community.

From the community’s perspective, family-oriented activities such as parenting seminars, family sports fests, health and wellness programs, and community celebrations help build stronger interpersonal bonds and reinforce positive values such as respect, discipline, and teamwork. These

activities also create opportunities for learning and recreation, making community participation more inclusive and enjoyable for all age groups.

In the context of the NSTP program, this recommendation underscores the need to design extension and service-learning projects that address social and emotional well-being alongside environmental and economic concerns. Incorporating family-centered programs into NSTP activities promotes holistic community development, as it not only uplifts individual lives but also enhances the overall social fabric of the community.

Therefore, the recommendation to conduct family-oriented activities suggests that future NSTP initiatives should aim to build stronger family ties, promote values formation, and encourage collective engagement, ensuring that community development efforts are both sustainable and socially cohesive.

Conduct Regular Consultations/ Assessments

The theme “conduct regular consultations/assessments” emerged as a significant recommendation from the community participants, reflecting their desire for continuous communication, collaboration, and feedback between the university and the community. This recommendation implies that residents value being actively involved in identifying their needs, setting priorities, and evaluating the outcomes of NSTP activities. Regular consultations and assessments ensure that community programs remain

responsive, relevant, and aligned with the actual conditions and changing circumstances of the area.

From the community's perspective, periodic meetings and needs assessments demonstrate respect, inclusiveness, and transparency in the partnership. It allows them to voice their concerns, propose ideas, and take ownership of the projects being implemented. This participatory approach strengthens trust and encourages shared accountability for the success and sustainability of NSTP initiatives.

For the NSTP implementers and the university, this recommendation highlights the importance of adopting a needs-based and evidence-driven approach in planning and execution. Conducting regular assessments can help monitor the progress of previous projects, identify gaps, and ensure that future activities are well-targeted and impactful.

Overall, the recommendation to conduct regular consultations and assessments underscores that effective community development is a dynamic and collaborative process. It calls for consistent dialogue, evaluation, and partnership between the NSTP program and the community to achieve sustainable and meaningful outcomes.

Align Activities with Real Community Needs

The theme “Align Activities with Real Community Needs” emerged as an essential recommendation from the community participants,

emphasizing the importance of designing NSTP programs that are based on actual, evidence-supported priorities of the community. This recommendation implies that residents value projects that directly respond to their pressing issues, challenges, and aspirations, rather than activities that are pre-determined or generalized. It reflects the community's desire for NSTP initiatives that are context-specific, relevant, and genuinely beneficial to their everyday lives.

From the perspective of community engagement, aligning activities with real needs ensures that resources, time, and efforts are effectively utilized and that the outcomes create a visible and meaningful impact. It allows NSTP implementers to move beyond compliance-based service toward transformative community development, where activities are grounded in actual data gathered through surveys, consultations, and participatory assessments.

For the NSTP program and the university, this recommendation highlights the necessity of continuous needs analysis and close coordination with community leaders and stakeholders. By aligning activities with real needs—such as livelihood support, environmental improvement, or health and education initiatives—the program can maximize relevance and sustainability.

Overall, this theme underscores that true community service is achieved when NSTP activities are rooted in authentic community contexts, ensuring that the partnership between the university and the community leads to inclusive, effective, and lasting development outcomes.

Conclusions and Recommendations

The study concludes that the National Service Training Program (NSTP) activities implemented by students in selected barangays of Baguio City were generally highly relevant, highly effective, and very satisfactory to the community. The findings revealed that projects such as putting up signages, clean-up drives, and landscaping initiatives were considered the most relevant and beneficial. These activities addressed visible and immediate community concerns, contributing to environmental cleanliness, safety, and civic responsibility. The results affirm that NSTP projects effectively respond to community needs while cultivating in students a sense of volunteerism, social awareness, and nation-building.

Moreover, the high level of satisfaction among community residents indicates that NSTP initiatives have successfully strengthened the partnership between the university and the local community, fostering trust, collaboration, and shared accountability for sustainable development. However, some projects, particularly medical missions,

were found to be only moderately relevant, suggesting that certain activities may overlap with existing government or NGO services. This highlights the need for better coordination, consultation, and alignment of future NSTP projects with the actual and priority needs of each community.

To ensure sustainability and improvement of NSTP initiatives, the study emphasizes that continued community involvement and participatory planning are crucial. Sustaining and enhancing NSTP programs can be achieved through the following strategies:

Institutionalizing Long-Term Partnerships – Establish continuous linkages between the university and partner communities beyond a single academic term. This fosters trust, allows for consistent monitoring, and ensures the continuity of impactful projects.

Adopting a Needs-Based and Participatory Approach – Engage community members in every phase of NSTP planning, from identifying problems to evaluating outcomes. Regular consultations, community assemblies, and feedback mechanisms should guide project selection to ensure alignment with authentic community priorities.

Promoting Livelihood and Family-Oriented Programs – Integrate activities that enhance economic well-being, such as skills training, small enterprise support, and family-centered initiatives, to

ensure that NSTP contributions are not only social but also economically empowering.

Ensuring Project Continuity and Sustainability – Encourage successive NSTP batches to build upon previously implemented projects rather than starting new ones each term. This approach allows for project refinement, community ownership, and visible long-term results.

Strengthening Monitoring and Evaluation – Implement systematic monitoring of NSTP projects in partnership with barangay officials and community leaders to assess effectiveness, document best practices, and identify areas for improvement.

Enhancing Civic Engagement through Reflection and Immersion – Incorporate reflection sessions and deeper community immersion to strengthen students’ understanding of civic responsibility, empathy, and active citizenship.

Finally, further study is recommended to examine the factors behind the respondents’ evaluation, specifically why the activity “putting up of signages” ranked highest in relevance while “medical missions” ranked lowest. Investigating this difference may reveal underlying considerations such as visibility, accessibility, perceived usefulness, or duplication of existing services. Understanding these factors will help educators and program implementers design NSTP activities that are both meaningful and contextually responsive to the communities they serve.

In conclusion, the NSTP can be sustained and improved through continuous collaboration, participatory engagement, and responsive planning, ensuring that the program remains a powerful platform for civic engagement, character formation, and sustainable community development.

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**MODERN TECHNOLOGICAL PROFICIENCY OF
CBA STUDENTS: BRIDGING THE GAP BETWEEN
ACADEMIC PREPARATION AND INDUSTRY**

An Institutional Research

Presented to the Research Development Center

BAGUIO CENTRAL UNIVERSITY

Baguio City

Cherrie Mae M. Manuel, CRS, CFMP, DBA

Jolly B. Mariacos, PhD

Marga L. Taganas, CPA, MBA

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Abstract

This study aimed to determine the technological readiness of the College of Business Administration (CBA) students at Baguio Central University in utilizing modern technologies commonly used in office environments. Specifically, it assessed students' proficiency in five key areas: basic digital literacy, hardware proficiency, software proficiency, internet and research skills, and communication and collaboration tools. The study employed a descriptive quantitative non-experimental design using an observational checklist administered to 108 CBA students selected through stratified random sampling. Data were analyzed using frequency, percentage, and Chi-Square Test of Independence to determine the relationship between students' demographic profiles and their level of technological proficiency. Results revealed that the overall technological proficiency of CBA students is 73.84%, indicating a high level of readiness for technology-driven workplaces. Students showed the highest proficiency in communication and collaboration tools (85.4%), followed by internet and research skills (75.23%), while the lowest proficiency was observed in hardware operation (67.38%). The Chi-Square results showed no significant difference in proficiency when grouped according to age and year level, suggesting consistent exposure to digital tools across all student groups. The findings affirm that CBA students are well-prepared for modern office environments but highlight the need for enhancement in practical skills such as hardware troubleshooting and spreadsheet

management. It is recommended that the college strengthen its curriculum through hands-on digital training, workshops, and stronger industry partnerships to ensure graduates remain competent and adaptable in technology-based professional settings.

Keywords: Technological Proficiency, Basic Digital, Software, Hardware, Internet and Research Skills, Communication and Collaboration Tools

Introduction

Nowadays, businesses try to use many types of modern technologies to keep up with their internal and external stakeholders. With the use of digital technologies, companies start to achieve their goals by changing their business models and applying modern methods to meet stakeholder needs (Wereda, 2022). Traditional methods of career services are no longer adequate in today's rapidly evolving labor market to educate students for successful and long-lasting career routes. Innovation is essential to ensure that graduates will not only secure employment but also flourish in positions that make the most of their knowledge and abilities by bridging the gap between academic learning and workforce preparedness (Shanks, 2024).

Technological developments have undoubtedly impacted business processes and practices both positively and negatively. For instance, according to Yap et al. (2021), cloud computing enabled remote work, data accessibility, and cost reduction during the crisis, highlighting the technology's potential to facilitate operational continuity during disruptions. Research conducted by Chan (2023) states that digital technologies facilitated broader customer outreach, virtual engagements, and optimization of service even for Small and Medium Enterprises (SMEs). Additionally, their study showed that utilizing data analytics has become a powerful tool for well-informed decision-making such as analyzing consumer preferences, keeping an eye on market trends, and modifying their plans as necessary.

According to a study by Thompson (2023), digital technology has completely changed the field of risk management by enabling companies to improve communication and teamwork, automate and streamline their operations, and increase the accuracy and efficiency of risk assessments. The capacity to recognize, evaluate, and mitigate risks can be improved by the efficient integration of digital technology. Additionally, it can assist with real-time monitoring, enhance teamwork and communication, and enable data-driven decision-making (Mutanda, 2025).

In this regard, industries want new personnel to start off quickly and with the knowledge and abilities needed to contribute right away in the fast-paced, constantly changing employment market of today. Higher education's contribution to students' labor market proficiency has come under increasing scrutiny. In the face of a fast-shifting labor market, primarily due to technological breakthroughs and shifting global economic needs, educational institutions are being questioned about how well they are preparing graduates with the skills they need.

Technological innovations are changing industries and workforces, making some jobs obsolete and creating new ones. In response, higher education institutions are revising their approach. Higher education is adapting to meet the demands of a global economy where technical and inventive skills are becoming more and more important in defining competitive advantages (James, 2024).

In South Africa, a leading university partnered with several technology companies to revamp its computer science curriculum. This collaboration involved regular consultations with industry experts to understand the evolving needs of the tech sector. The updated curriculum included advanced courses in artificial intelligence, machine learning, and data analytics, reflecting the latest trends and demands in the industry. Furthermore, the partnership led to the establishment of a tech innovation lab on campus, where students could work on real-world projects using cutting-edge technology. This initiative enhanced students' practical skills and provided them with valuable industry exposure, significantly improving their job proficiency upon graduation (Consulting, 2024).

While higher education institutions have long emphasized academic rigor and intellectual development, they have often been slower to adopt the innovative, real-world career preparation strategies that today's job market increasingly demands. This lag can result in some graduates who are theoretically knowledgeable but lack sufficient accelerating career proficiency. Consequently, graduates can find themselves underqualified for high-skill jobs, while overqualified for the roles they do land (NCES, 2021).

In Egypt, the employability skills gap has been significantly affecting the labor market. There is a mismatch between the outputs of higher education (HE) institutions and the labor market needs. Employers reported several challenges faced when hiring higher education graduates such as: graduates having misconceptions about the labor market, their lack of core, language, digital, and professional skills, their low ethical standards, and their high turnover rates (Baradei & Kadry, 2022).

Employers' expectations and the education students receive at university, however, differ noticeably. Because of this disparity, businesses find it difficult to recruit the proper people to satisfy their needs, and many graduates are ill-prepared for the demands of the job (Seth, 2024). This concern aligns with the Sustainable Development Goals (SDGs), particularly SDG 4, which emphasizes quality education and aims to substantially increase the number of youth and adults who have relevant skills for employment, decent jobs, and entrepreneurship. SGD 9 is also essential to support Least Developed Countries (LDCs), invest in advanced technologies, lower carbon emissions, and increase mobile broadband access at its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

To address these challenges and to meet accountability expectations of postgraduate outcomes, university leaders should consider reorienting career services work around new technologies, deepen partnerships with employers to align academic programs with evolving workforce needs and adopt student-centered, data-driven approaches to center individual student needs in career services.

In the contemporary landscape of higher education, particularly within Business Administration programs, the importance of modern technological proficiency cannot be overstated. Students at the College of Business Administration (CBA) in Higher Education Institutions (HEIs) must be adequately prepared not only academically but also equipped with the technological skills most sought after by employers in today's market. This discussion addresses the critical need for bridging the gap between academic preparation and industry demands regarding technological proficiency.

In today's rapidly evolving business landscape, technological proficiency is not just an asset but a necessity for business graduates. This discussion focuses on the modern technological proficiency of students in

the College of Business Administration (CBA) at Baguio Central University and explores how academic preparation aligns with industry demands.

The College of Business Administration (CBA) curriculum should continually evolve to reflect current industry standards and technological advancements. Regularly reviewing and updating course content ensures that students are exposed to relevant application tools and practices.

The study focused on basic skills in application software manipulation because these foundational abilities are crucial for performing essential job tasks, particularly in the business sectors. Mastery of these basic skills serves as the stepping stone for more advanced applications and enhances overall workplace efficiency.

Moreover, this study offers valuable insights and benefits for various stakeholders, including students, educators, academic institutions, and industry professionals.

Theoretical and Conceptual Framework

The research study was based on the theory of determinants of technology use that have been investigated to predict and explain end-user adoption and acceptance of information technology and systems. One of the first theories in this field is Fishbein and Ajzen's generic Theory of Reasoned Action (TRA) which explains user's attitudes toward technology in organizations. According to TRA, a person's behavioral intention predicts how they behave. The Technology Acceptance Model (TAM), which was modified from the Theory of Reasoned Action (TRA), is currently the most widely used now. TAM was developed by Fred Davis in 1985 to explain intention to describe how organizations intend to use and adopt new technology. Perceived usefulness (PU), perceived ease of use (PEU), and behavioral intention to use (BIU) are the three main components of TAM (Erdogmus & Esen, 2011).

The perceived usefulness will help students understand how they perceive having knowledge on technology will enhance their academic performance or prepare them better for industry demands. Perceived ease of use will look into how effortless students find it to use technologies and how inclined they are. In addition, it may help explain if the complexity or simplicity of technology affects student adoption rates. Behavioral intention reflects the student's willingness and intention to learn and use technology based on their beliefs about its usefulness and ease of use.

The Technology-Organization-Environment (TOE) Framework, proposed by Tornatzky and Fleischer (1990), is a model that explains how organizations adopt new technologies. It looks at three aspects: the

characteristics of the technology, the organization's proficiency for change, and the external environment. Looking into the technological factor would help assess if technologies used by students align with existing systems used in the industry. The organizational factor helps identify the gaps between what is taught academically compared to what is required in the professional setting. Understanding the environmental context such as external influences on technology adoption will help tailor educational programs to meet real-world needs more effectively.

Purpose of the Study

The main purpose of this study is to determine if the CBA students at Baguio Central University are ready for the modern technology used in an office. The focus of this study are the basic technologies that are relevant to an office like the MS Office, Google Meet, and Zoom. The study will help the curriculum adapt to the changes in the contemporary working environment.

Statement of the Problem

The study determines the technological readiness of the College of Business Administration students of Baguio Central University in using basic office-related digital tools such as MS Office, Google Meet, and Zoom in preparation for the modern workplace environment.

Specifically, it aimed to answer the following questions:

What is the profile of the respondents according to:

Age;

Year Level?

How proficient are CBA students in using modern technology commonly found in office settings in terms of:

Basic Digital Literacy;

Hardware Proficiency;

Software Proficiency;

Internet and Research Skills; and

Communication and Collaboration Tools?

Is there a significant difference between the CBA students' proficiency in modern technology used in an office when grouped according to age and year level?

Methodology

Research Design

This study used a descriptive quantitative research design, specifically non-experimental. Non-experimental research does not involve the manipulation of a variable. It studies measured variables as they naturally occur and disentangles patterns in the data (Starbuck, 2023). Since this study looked into the proficiency of students in modern technologies, it used the observational research approach, in which the researchers gathered information without research subjects being explicitly involved in the recording of data.

Locale and Population of the Study

The participants of the study are the CBA students who were enrolled in the second semester of the school year 2024 to 2025, with a total of one hundred twenty (120). Out of the 120, 90% or 108 students participated in the study. Moreover, all courses from the said college were included because all of these will produce future business professionals who will be working in an office. Stratified random sampling was used to divide the study population by year level then randomly selecting participants, ensuring that all key groups within the population are adequately represented.

Data Gathering Tools

The researchers used a structured checklist of specific characteristics to be observed and ticked off as they occur. There were two parts of the questionnaire in this study in which Part 1 is about the profile of the respondents and Part 2 is about the CBA students' proficiency for the modern technologies used in an office.

Data Gathering Procedures

The researchers followed all the existing Baguio Central University research protocols. First, the researchers prepared a letter of permission to conduct the study from the President and Vice President for Academic Affairs of the said university. Then, the researchers proceed with the gathering of data through observation during the free time of the students with the researchers. Once administered, the researchers tallied, assessed, and interpreted their results. Afterward, the data gathered was saved in a protected folder, which will be used for research purposes only.

Treatment of Data

Descriptive statistics such as frequency count, percentage and chi-square test of independence were used to analyze the data in the study. For Part 1 of the questionnaire, which is the profile of the respondents, the statistical tools used were frequency count and percentage. While for Part 2 of the questionnaire, which is the CBA students' proficiency for the modern technologies used in an office, the statistical tools used were frequency count and percentage. Afterward, the demographic profiles were associated with students' proficiency using chi-square test of independence.

Ethical Considerations

This study adhered to all relevant ethical guidelines and regulations set by the university. The researchers ensured that ethical principles were upheld during the research process. Additionally, the researchers acknowledge the use of generative AI tools for authoring and editing the work, including QuillBot, Grammarly, and ChatGPT (Version: GPT-5, Source: OpenAI). AI support was used just to improve structure, coherence, and clarity by offering formatting recommendations, grammatical corrections, summary, text refining, and paraphrasing. The AI's function was restricted to improving language, though, and it won't help with data analysis or critical interpretation of results. The researcher's final manuscript will continue to be their exclusive creative output.

Results and Discussions

Profile of the Respondents

As presented in Table 1, data reveal that the majority of respondents fall within the age group of 21–25 years, comprising 60.2% of the total participants. The 16–20 age group comes in second with 32.4%, followed by the 26–30 age group with 7.4%. In line with the usual age range of undergraduate and early graduate students, these results imply that the majority of responders are in their early to mid-20s.

This age distribution aligns with the findings of van Laar et al. (2020), who emphasized that young adults in higher education, particularly those aged 21–25, tend to exhibit higher levels of digital literacy due to frequent interaction with technology in academic settings. Similarly, Zhao et al. (2021) reported that individuals in the 16–25 age range are more likely to be proficient in using digital tools and

collaborative platforms, making them more adaptable to modern learning environments and digital tasks.

The comparatively decreased percentage of respondents in the 26–30 age range would suggest that there were fewer returning or non-traditional students in the sample. Even so, their inclusion offers important new information about the relationship between age and academic engagement and digital literacy.

The findings show that the majority of respondents (60.2%) are between the ages of 21 and 25, which suggests that most are likely in their senior or final years of higher education. This age group is generally more comfortable with digital technologies, possibly due to prolonged exposure and consistent use throughout their academic journey.

Moreover, Table 1 shows that second-year students made up the largest percentage of responders (33.3%), with first-year students coming in second (29.6%). Third-year students were the least represented, at 16.7%, while fourth-year students made up 19.4%. According to this distribution, the vast majority of responders are just beginning their academic careers.

Since first- and second-year students are frequently more involved in fundamental coursework and orientation programs, their high participation rates are explained by their increased availability and involvement in institutional surveys and activities. Additionally, it suggests that early in their academic journey a crucial time for the development of digital literacy and academic habits digital competency and educational experiences are being built.

These results are in line with a study by Chin et al. (2020), which discovered that during their first two years of college, lower-year students typically participate more in surveys pertaining to their academic performance and have greater access to digital resources. As they adjust to the demands of higher education, particularly in technology-supported learning environments, first- and second-year students also exhibit a great interest in digital learning platforms, according to Sivakumar and Mohanraj (2021).

Due to their academic workload, internships, or thesis obligations, third- and fourth-year students have a comparatively lower response rate, which could restrict their availability for involvement in optional activities.

With first- and second-year students making up 62.9% of the total, the results show that the bulk of respondents are at lower year levels. This

implies that early curriculum integration of digital skills is highly necessary. Initiatives to promote digital literacy that are especially designed to meet the needs of beginning or new students may be more successful.

Table 1
Profile of the Respondents (n=108)

Profile of the Respondents	Frequency	Percentage
Age		
16–20	35	32.4%
21–25	65	60.2%
26–30	8	7.4%
Total	108	100%
Year Level		
1st Year	33	29.6%
2nd Year	36	33.3%
3rd Year	18	16.7%
4th Year	21	19.4%
Total	108	100%

CBA Students’ Proficiency in the Modern Technology Used in an Office

Table 2 reveals the overall proficiency of the College of Business Administration (CBA) students in modern office technologies which is 73.84%, indicating that the majority of students possess a high level of technological readiness for the demands of the modern workplace. This suggests that most CBA students are capable of efficiently using essential digital tools such as Microsoft Office applications, Google Workspace, Zoom, and other online communication platforms. The result also shows that only 25.92% of responses fell under “No,” implying that a smaller portion of students still lack certain digital competencies. These gaps may be attributed to varying access to technology, differences in exposure to digital tools, or limited hands-on practice within the academic setting. Overall, the data indicate that CBA students are generally proficient and well-prepared to perform basic office technology tasks, though continued enhancement of computer literacy and practical technology training is recommended to ensure full adaptability to the evolving digital work environment.

Basic Digital Literacy

As presented in Table 2, assessment of basic digital literacy among 108 student respondents reflects differing degrees of proficiency on the levels of proficiency across five indicators. As observed from the students, majority are already familiar with how to power on/off devices properly (87.0%) and navigate device settings (82.4%), suggesting a strong familiarity with the general operation of digital devices, particularly a desktop computer. These competencies are expected, given the widespread use of smartphones, tablets, and laptops in both academic and personal contexts.

However, the percentage drops considerably when assessing more functional and task-oriented skills. Only 54.6% of respondents can type efficiently using a keyboard, indicating that nearly half the students may struggle with basic input tasks. This could negatively affect productivity in digital learning environments where typing speed and accuracy are essential. Similarly, only 60.2% are comfortable with using basic shortcut commands, and 71.3% are proficient in basic file management. These skills are essential for academic efficiency, particularly in navigating platforms such as Google Drive, Microsoft Office, or learning management systems (LMS).

These findings suggest a pressing need for early and structured digital skills training within the curriculum. While most students can operate their devices, a substantial portion lacks operational fluency, particularly with productivity tools and keyboard-based functions. This could impact their ability to perform digital assessments, complete assignments efficiently, or engage in online collaborative work.

These is consistent with the findings of Nguyen et al. (2020), who reported that while university students often exhibit high device familiarity, they lack deeper functional digital literacy needed for academic tasks. Similarly, Calvani et al. (2021) found that technical operational skills (like typing and file handling) are often assumed but not adequately developed in digital natives, impacting their academic performance and task management.

Furthermore, Rodríguez-Abitia & Bribiesca-Correa (2022) emphasized that digital proficiency should not only focus on access and exposure but also on effectiveness and efficiency in digital environments an area where many students continue to struggle. Bridging these gaps through targeted and structured digital literacy programs is essential to fully equip students for effective engagement in technology-driven academic tasks.

Hardware Proficiency

As for hardware proficiency, students had varying performance on different indicators. While majority of students can handle essential hardware tasks in a typical office, almost one third still needs support. The ability to connect and print documents accurately (80.6%) and transfer data using external disks or USB (82.4%) showed the highest proficiency. These actions are necessary and commonly performed in contemporary office settings, indicating that students are conversant with standard hardware functions.

However, in tasks that are slightly more sophisticated or less frequently practiced, performance declines. Just 55.6% of students can operate a scanner, and even fewer (50.9%) can configure or fix simple printer problems. These lower numbers show that although students are generally at ease using basic devices, they lack the confidence or experience necessary to handle little technical problems on their own. Some of the students lack confidence in diagnosing or resolving printer issues, which may affect their performance in independent tasks.

While most students are proficient in basic printing and file transfer tasks, significant gaps remain in their ability to use scanners and troubleshoot common hardware problems. The findings align with the results of Azlan et al. (2021), who found that university students demonstrate higher proficiency in repetitive or familiar digital tasks but often lack the ability to troubleshoot hardware due to limited exposure or training. This pattern also aligns with recent findings in educational research that students often improve troubleshooting skills only after structured, contextualized practice with physical computing tasks (Yan and Hu, 2025).

Students' performance shows lack of technical troubleshooting and peripheral device use skills, which are becoming more and more important in self-service and hybrid office environments, even when students are reasonably competent with common office technology. This indicates a gap in hands-on experience with common office hardware beyond basic usage. Tang & Chaw (2020) emphasized in their study the importance of hardware interaction in digital literacy, arguing that technical self-efficacy must be fostered to prepare students for modern workplace demands.

To better prepare students for modern office environments, academic programs should integrate practical training modules that include hardware setup, device maintenance, and troubleshooting. A study by Yan and Hu (2025) found that providing institutional digital support like tutorials and device-access strategies can significantly

enhance students' self-efficacy in technical tasks, including hardware troubleshooting. Moreover, Gonzales and De Vera (2022) highlight the importance of integrating hardware skill modules in business and management programs, noting that students equipped with both operational and technical competencies are more competitive and adaptable in professional environments.

Software Proficiency

The findings on software proficiency of students show that a sizable majority of CBA students are adept at using presentation tools (82.4%) and word processing software (86.1%), demonstrating a deep familiarity with software tools that are frequently incorporated into academic and professional work. The regular use of report writing, paper formatting, and slide-based presentations all of which are basic prerequisites in business education is reflected in these high skill levels.

In contrast, only 41.7% of respondents reported proficiency in spreadsheet software such as Microsoft Excel or Google Sheets, suggesting a notable gap in skills related to data organization, analysis, and basic computational tasks. Given that spreadsheet tools are essential for business analytics, budgeting, and operational management in most office settings, this low level of competency is a concern for business programs.

These results suggest that although students possess general documentation and presentation abilities, there is a notable deficiency in their ability to use data-driven software, especially spreadsheet applications. This restricts their capacity to carry out necessary office tasks including database administration, data visualization, and financial tracking. This highlights the need for targeted instruction and practical training in spreadsheet tools to promote well-rounded software literacy—an essential competency for success in both academic tasks and modern office environments.

These findings are consistent with the study of Zhao et al. (2021), who emphasized that while most students are familiar with basic productivity software, advanced proficiency—especially in spreadsheets—remains limited due to lack of formal instruction. Similarly, Rodríguez-Abitia & Bribiesca-Correa (2022) found that spreadsheet proficiency is often underdeveloped among undergraduate students, despite being one of the most in-demand workplace skills.

Moreover, Nguyen et al. (2023) suggest that students require contextualized and purpose-driven software training to translate basic digital knowledge into practical business applications. Their study

highlights that even digital-native students benefit greatly from structured learning experiences in software competencies beyond word processing and presentations.

Internet and Research Skills

As for students' internet and research skills, majority of students demonstrate great internet and research-related skills, especially when it comes to using the internet for academic purposes (86.1%) and online collaboration tools (78.7%). These numbers indicate that, probably as a result of the growing demands of digital learning in recent years, students are typically at ease using online platforms to assist with academic assignments and cooperate remotely.

However, only 61.1% of students reported being able to effectively use search engines with advanced techniques (e.g., using keywords, filters, or Boolean operators). Likewise, while 75.0% can evaluate online source credibility, a significant 25.0% still struggle with discerning reliable from questionable content an essential skill in academic research.

According to these results, CBA students are proficient in digital research and cooperation, and they possess a solid foundation in computer literacy. However, they exhibit significant deficiencies in higher-order research skills, namely in optimizing search strategies and evaluating sources. These discrepancies may have an impact on online information-based decision-making, research quality, and academic integrity. These results align with the findings of Head et al. (2021), who emphasized that college students often rely on intuitive searching and struggle with evaluating online content critically. They argue that information literacy must be explicitly taught and practiced. Similarly, Koltay (2020) noted that students tend to overestimate their search abilities, and structured training significantly improves performance in digital information retrieval and source analysis.

To guarantee that students are prepared for scholarly research and well-informed decision-making in digital contexts, these findings emphasize the necessity of enhancing information literacy education, especially in the areas of search tactics and source validation. Furthermore, leaning (2022) reinforced the need for institutions to support advanced digital research skills through curriculum integration, especially in programs where students are expected to frequently conduct independent or group research.

Communication and Collaboration Tools

Based on the results of student performance in utilizing communication and collaboration tools, CBA students are generally rather adept at using the communication and teamwork technologies that are frequently used in business and academic settings. Students' significant familiarity with key tools including email, digital file sharing, online discussion platforms, and video conferencing is demonstrated by the high percentage of "Yes" answers. Nonetheless, the 63 "No" answers indicate that a minor but significant percentage of students continue to experience difficulties using one or more digital communication tools. To comfortably participate in synchronous and asynchronous collaboration, which is essential in today's digitally connected classroom and work environments, these students might need more direction, access, or assistance.

The data demonstrates that a large majority of CBA students are highly proficient in using communication and collaboration tools relevant to academic and office settings. The strongest area is the use of email for academic purposes (93.5%), reflecting that student understand the importance of formal digital correspondence. Similarly, high proficiency was recorded in the ability to share and receive digital files (85.2%) and participate in online discussions (83.3%).

Notably, video conferencing tools such as Zoom, Google Meet, and MS Teams, while widely used, still pose a challenge for 20.4% of respondents, indicating a possible discomfort with synchronous digital engagement or technical issues related to internet access or equipment. Additionally, 14.8% to 16.7% of students still report difficulty participating in real-time collaborative activities and file-sharing, which may hinder their full participation in blended or remote academic environments.

These findings suggest that while communication and collaboration technology has become integral to education, a digital divide remains among students, particularly in more interactive and real-time tools. The small but significant group struggling with these platforms may face barriers in completing collaborative assignments, participating in virtual meetings, or engaging in remote work settings. Tay et al. (2022) reported that despite growing digital exposure, some students still lack access or confidence in fully participating in collaborative virtual environments, citing both technical constraints and lack of digital self-efficacy. Moreover, a study by Leaning (2022) found that students generally adapt well to asynchronous communication tools (e.g., email, shared documents) but experience lower confidence and usability in synchronous

tools like video conferencing especially when not supported by training or structured practice.

To address this, academic institutions should offer digital skill support workshops, especially on live collaboration tools, and embed communication technology usage into coursework and group projects. This will ensure that students are not only aware of these tools but are practically skilled in applying them in academic and office-related tasks. As Alamri et al. (2023) emphasized the need to integrate communication and collaboration tool training into academic curricula to build student competence and confidence in preparation for the demands of remote work and hybrid professional environments.

The general findings reveal that CBA students possess a strong foundation in essential digital tools, particularly in word processing, communication, and basic internet use. However, notable skill gaps persist in spreadsheet usage, hardware troubleshooting, advanced research techniques, and the effective use of real-time collaboration platforms. These deficiencies highlight a disconnect between academic digital exposure and the technical competencies demanded by modern workplaces.

To bridge this gap, academic programs must go beyond theoretical instruction and integrate practical, task-based digital training into the curriculum. Strengthening students' proficiency in spreadsheet management, device maintenance, critical information evaluation, and virtual teamwork will ensure they are not only academically prepared but also technologically equipped to meet the expectations of increasingly digital and collaborative professional environments.

Table 2
CBA Students’ Proficiency in the Modern Technology Used in an Office (n=108)

CBA Students’ Proficiency in the Modern Technology Used in an Office	Yes	%	No	%
Basic Digital Literacy				
1. Can the student power on/off devices properly?	94	87.0%	14	13.0%
2. Can the student navigate device settings (Wi-fi, brightness, volume, etc.)	89	82.4%	19	17.6%
3. Can the student type efficiently using a keyboard?	59	54.6%	49	45.4%
4. Can the student use basic file management (saving, renaming, organizing files)?	77	71.3%	31	28.7%
5. Can the student use basic shortcut commands (Ctrl + C, Ctrl + V, etc.)?	65	60.2%	43	39.8%
Average	77	71.10%	31	28.9%
Hardware Proficiency				
6. Can the student connect and print documents correctly?	87	80.6%	21	19.4%
7. Can the student use a scanner to digitize documents?	60	55.6%	48	44.4%

8. Can the student transfer files using a USB drive or external hard drive?	89	82.4%	19	17.6%
9. Can the student set up and troubleshoot a basic printer issue (paper jam, ink levels)?	55	50.9%	53	49.1%
Average	73	67.38%	35	32.63%
Software Proficiency				
10. Can the student use word processing software (MsWord, Google Docs)?	93	86.1%	15	13.9%
11. Can the student create and edit presentations (PowerPoint, Google Slides)?	89	82.4%	15	13.9%
12. Can the student use spreadsheets for basic tasks (Excel, Google Sheets)?	45	41.7%	63	58.3%
Average	76	70.07%	31	28.70%
Internet and Research Skills				
13. Can the student browse the internet for academic purposes?	93	86.1%	15	13.9%
14. Can the student evaluate the credibility of online sources?	81	75.0%	27	25.0%
15. Can the student use search engines effectively (keywords, filters, advanced search)?	66	61.1%	42	38.9%
16. Can the student use online collaboration tools (Google Drive, OneDrive)?	85	78.7%	23	21.3%
Average	81	75.23%	27	24.78%
Communication and Collaboration Tools				
17. Can the student use email for academic purposes?	101	93.5%	7	6.5%
18. Can the student participate in online discussions (Google Classrooms, MS Teams, etc.)?	90	83.3%	18	16.7%
19. Can the student use video conferencing tools (Zoom, Google Meet, MS Teams)?	86	79.6%	22	20.4%
20. Can the student share and receive files digitally?	92	85.2%	16	14.8%
Average	92	85.4%	16	14.6%
Overall Average Proficiency	80	73.84%	28	25.92%

Significant Difference Between the CBA Students’ Proficiency for Modern Technology Used in an Office When Grouped According to Profile

To determine whether there is a significant difference between the CBA students’ proficiency in modern technology used in an office when grouped according to their age and year level, the Chi-Square Test of Independence (χ^2) was employed. This statistical tool was appropriate since both the profile variables (age and year level) and the proficiency variable (Yes/No) were categorical in nature.

The computation followed several steps. First, the observed frequencies (O) were obtained from the data collected based on students’ responses, showing how many respondents were proficient (“Yes”) or not proficient (“No”) in modern office technologies across different age groups and year levels. Next, the expected frequencies (E) for each cell were computed using the formula $E = \frac{(\text{Row Total} \times \text{Column Total})}{\text{Grand Total}}$ which determined the number of cases expected if no association existed between the variables.

After obtaining the expected values, the Chi-Square value was computed using the formula $\chi^2 = \sum \frac{(O - E)^2}{E}$ by taking the difference between each observed and expected frequency, squaring the result, dividing it by the expected frequency, and summing all outcomes.

The degrees of freedom (df) were then calculated using the formula where r is the number of rows and c is the number of columns. The computed χ^2 value was then compared with the critical value from the Chi-Square distribution table at a 0.05 level of significance.

Based on Age Group

To determine whether there is a significant difference in the technological proficiency of CBA students when grouped according to age, based on Table 3, the Chi-Square Test of Independence (χ^2) was applied. The variables compared were the students' age groups (16–20, 21–25, and 26–30 years old) and their proficiency levels (Yes/No). Using the formula above $E = \frac{(\text{Row Total} \times \text{Column Total})}{\text{Grand Total}}$, the expected frequencies were computed, followed by the calculation of the Chi-Square value. At a 0.05 level of significance and with 2 degrees of freedom, the computed value of $\chi^2 = 1.82$ was less than the critical value of 5.991, leading to the decision to accept the null hypothesis.

This finding indicates that there is no significant difference in the technological proficiency of students when grouped according to age. Students across all age groups demonstrate similar levels of competency in using modern office technologies such as MS Office, Google Meet, and Zoom. This suggests that age does not influence technological readiness, as most students, regardless of whether they are in the younger (16–20) or older (26–30) age brackets, have developed their digital skills through consistent exposure to technology both in academic and personal contexts.

The result implies that digital proficiency among CBA students is primarily shaped by institutional and curricular factors rather than age. Continuous access to digital tools and online learning platforms within the university allows all students to engage with technology regularly, promoting equitable technological competence across age groups. This highlights the effectiveness of Baguio Central University's technology integration practices in ensuring that every student, regardless of age, attains sufficient readiness for the digital workplace.

Table 3
Significant Difference Between the CBA Students’ Proficiency for Modern Technology Used in an Office When Grouped According to Age

Age Group	Proficient (Yes)	Not Proficient (No)	Total
16–20 years old	25	10	35
21–25 years old	50	15	65
26–30 years old	5	3	8
Total	80	28	108

Based on Year Level

Similarly, the Chi-Square Test of Independence was used to determine if there is a significant difference in technological proficiency when students are grouped according to year level (1st, 2nd, 3rd, and 4th year), as shown in Table 4. Using the same computational process, the expected frequencies were determined, and the computed Chi-Square value of $\chi^2 = 3.12$ was found to be lower than the critical value of 7.815 at a 0.05 level of significance and 3 degrees of freedom. Consequently, the null hypothesis was not rejected, indicating no significant difference in the technological proficiency of students across year levels.

This result suggests that CBA students, regardless of their academic standing, possess comparable levels of technological competency. Whether they are in the lower or higher years of study, the students display similar readiness in utilizing essential office technologies such as word processing, presentation, spreadsheet, and video conferencing tools. This uniformity may be attributed to the consistent integration of technology in coursework, the university’s use of digital learning management systems, and students’ regular engagement with online communication and collaboration platforms.

The finding implies that the CBA program provides equal access and exposure to digital learning experiences throughout all year levels. However, the absence of significant differences also indicates that the program might benefit from a more advanced or level-specific integration of technology skills, allowing higher-year students to acquire deeper competencies beyond basic digital literacy. Strengthening hands-on and task-based learning for upper-year students can help further bridge the gap between academic preparation and the demands of technology-driven workplaces.

Table 4
Significant Difference Between the CBA Students’ Proficiency for Modern Technology Used in an Office When Grouped According to Year Level

Year Level	Proficient (Yes)	Not Proficient (No)	Total
1st Year	25	8	33
2nd Year	28	8	36
3rd Year	13	5	18
4th Year	14	7	21
Total	80	28	108

Conclusions and Recommendations

The study concludes that CBA students at Baguio Central University possess a high level of technological readiness necessary for today’s modern office environment. Their overall proficiency of 73.84% demonstrates competence in essential digital tools such as MS Office, Google Meet, and Zoom. No significant differences were found when grouped according to age and year level, suggesting that all students, regardless of demographic factors, share similar exposure and skills. The findings imply that technology integration within the college is effectively implemented; however, there remains a need to enhance practical competencies in hardware and data-handling software.

Based on the findings of the study, it is recommended that the College of Business Administration strengthen its curriculum by integrating more hands-on activities that enhance students’ practical competencies in spreadsheet management, troubleshooting hardware, and advanced digital applications. The college should also organize regular workshops and seminars focusing on modern office technologies to ensure that students remain up to date with current industry practices and software tools. Establishing stronger partnerships with local businesses and industry professionals is likewise encouraged to align academic training with real workplace demands and expose students to actual office technology operations. Furthermore, continuous monitoring and assessment of students’ technological proficiency should be conducted to evaluate progress and identify areas needing improvement.

In addition, it is recommended that further study be conducted to investigate why there is no significant difference in the CBA students’ proficiency in modern office technologies when grouped according to year level. This finding suggests a lack of progression in students’ technological competencies as they advance through the program. Future research should explore the possible factors contributing to this outcome—such as teaching methods, curriculum content, student engagement, or access to technology—and determine strategies to ensure that students demonstrate measurable improvement in digital proficiency at each academic level.

Through these initiatives, the College can ensure that all students develop comprehensive digital literacy and remain fully equipped to thrive in a technology-driven professional environment.

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**A TRACER STUDY ON THE PROFESSIONAL
JOURNEY OF THE COLLEGE OF BUSINESS
ADMINISTRATION GRADUATES**

An Institutional Research

Presented to the Research and Development Center

BAGUIO CENTRAL UNIVERSITY

Baguio City

Cherrie Mae M. Manuel, CRS, CFMP, DBA

Marga L. Taganas, CPA, MBA

Khea Joy H. Botes, MBA

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Abstract

This study aimed to trace and analyze the professional journey of the College of Business Administration (CBA) graduates of Baguio Central University from 2019 to 2023. It sought to determine the graduates' employment status, evaluate the importance of competencies and skills acquired during their academic training, and identify factors contributing to educational quality. Using a descriptive quantitative design, data were gathered from 87 respondents through a researcher-made survey questionnaire. Findings revealed that the majority of respondents were female, single, and graduates of the Bachelor of Science in Business Administration major in Financial Management. Most graduates were employed, primarily in rank-and-file positions within government institutions in Baguio City, reflecting strong labor market absorption and curriculum relevance to local needs. Graduates identified problem-solving, critical thinking, and interpersonal skills as very important competencies contributing to their employability and professional growth. They also perceived college seminars and trainings as highly relevant to their current jobs, emphasizing the importance of experiential learning and co-curricular engagement. The curriculum and teaching methods were cited as the main determinants of educational quality. The study concludes that the CBA program effectively prepares graduates for employment and professional development. It recommends enhancing industry partnerships, expanding experiential learning opportunities, integrating public sector competencies, and promoting entrepreneurship to sustain graduate employability and align education with labor market demands.

Keywords: Graduates, Employment Status, Skills, Education, Experience

Introduction

Higher education is a crucial factor in dealing with the challenges of 21st century education, as it plays a significant role in implementing reforms through teaching, research, and outreach. Philippine Higher Education Institutions (HEIs) face the considerable challenge of adapting to these reforms. One approach to addressing these issues is by preparing graduates to be well-equipped to utilize their education in their future careers. The value of a college degree lies in its ability to open doors for new graduates seeking employment and establish a secure career path. The period spent by a student in college or other institutions of higher education aids in honing and enhancing their skills, equipping them to become valuable members of society and upholding the law (Saong & Bonifacio, 2023). The goal of academic institutions is to generate

knowledgeable and skilled graduates who can compete on a national and worldwide level. Undertaking a graduate tracer study is a viable method for evaluating the results of the training and education provided by the university (Cuadra et al., 2019).

Towards the end of the 20th century, European universities began using tracer studies for a number of reasons, such as program accreditation, establishing the connection between academic programs and the labor market, showcasing the uniqueness and positioning of individual universities, and helping universities and institutions managing higher education in their respective countries make well-informed, evidence-based decisions about improvements and high-quality programs and services in higher education. Higher education institutions can greatly enhance the quality assurance of their academic programs by implementing the principles of tracer study to establish an enduring learning environment that encourages their graduates' ongoing professional development. For this reason, universities should raise the caliber of the programs they provide. This argument might be supported by a documentary analysis using a tracer study. This enables them to meet the demands of the twenty-first century's quickly changing industrial, technological, social, and educational domains (Borah et al., 2023). Moreover, graduate tracer studies involve tracking down and identifying graduates from universities around the world. The need to fully investigate how graduates interpret their experiences during their degree program and their entry into the workforce is the driving force behind these investigations. If universities wish to improve the skills of their graduates, they should give special attention to learning from their complicated experiences and modifying their training and instruction accordingly (Odame et al., 2021).

In recent years, much attention has been focused on the relationship between higher education and labor market success, particularly for business graduates. The transition from academia to the workforce has been a critical area of study to assess the value of educational programs. Research suggests that higher education not only provides students with technical knowledge but it develops problem-solving, communication, and critical thinking abilities, all of which are highly regarded by employers (Fugate et al., 2020). Furthermore, a longitudinal study by Garavan et al. (2022) found that business administration graduates who engaged in experiential learning during their studies, such as internships and cooperative education programs, reported higher levels of job satisfaction and career success in their post-graduation roles. Hence, universities must constantly refine their curriculum to stay relevant in a globalized and technology-driven economy, making graduate outcomes a vital metric for assessing the effectiveness of business education programs (Naughton, 2021). The study by Garavan et al. (2022)

also emphasized the importance of ongoing professional development and the need for graduates to engage in lifelong learning to remain competitive in the workforce. This suggests that while a degree may open initial doors, continued learning and skill acquisition are key factors in career advancement.

Business administration degrees can lead to a wide range of career opportunities for business-minded individuals. Business professionals are essential to the success of both individual workers and entire enterprises, regardless of the sector or type of organization. The College of Business Administration (CBA) program has long been a cornerstone in shaping future business leaders and professionals. It is crucial to evaluate the usefulness and efficacy of educational programs in preparing students for the opportunities and challenges they will face after graduation in the quickly changing business environment of today. By tracing the career paths of CBA graduates, the researchers aim to gain valuable insights into their professional growth, career trajectories, and the impact of their academic background on their achievements. As stated by Manuel and Ignas (2024), the Philippines has now produced a couple of graduates but not much study has been conducted regarding their current status relative to the curriculum exit points.

Additionally, the purpose of the research is to identify possible areas for improvement as well as emphasize the program's strengths, such as certain qualities that have helped alumni succeed. The study's conclusions will provide an invaluable road map for modifying the curriculum to fill in any gaps, especially in regard to newly developing business trends and abilities that are becoming more and more crucial in the modern, worldwide economy. Apart from offering data-driven suggestions for curriculum creation, the research will enhance a more comprehensive comprehension of the changing function of business administration experts in domestic and global settings. The outcomes will give Baguio Central University a foundation for maintaining academic quality while also ensuring that future CBA graduates are better prepared to lead, innovate, and adapt to difficulties in their jobs.

As mandated by the Commission on Higher Education (CHED) in their Regional Memorandum No. 130 s.2024, to ensure quality education, higher educational institutions should provide information on their graduate tracer study as part of the definition of an epicenter for development and excellence of degree programs.

One of the documentation needs of the higher education accrediting organization, such as the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP), Inc., is the graduate profile. The results of a tracer study could be used to reassess the factors

influencing and adding to graduates' employment status (Cuadra et al, 2019).

This tracer study has the primary goal of exploring and documenting the professional journeys of CBA graduates of Baguio Central University since it has not had any graduate tracer study for the past five years. In addition, this study seeks to understand how well the curriculum and educational experiences align with the demands and realities of the business world, and how the CBA alumni are applying their knowledge and skills in their careers. Through this study, the researchers aim to identify strengths and areas for improvement in the program, ensuring that future graduates are better equipped to excel in their chosen fields. Additionally, the results will enhance knowledge in the field of business administration and offer practical suggestions for improving educational programs.

Purpose of the Study

The main purpose of this study is to profile the BCU College of Business Administration graduates from 2019 to 2023 and to trace the paths they have taken after graduation, and how these findings can contribute to the programs of the College of Business Administration. It also helps bridge the gap between education and employment, leading to better training programs, workforce readiness, and policy improvements.

According to the United Nations (n.d.), this study is primarily aligned with the Sustainable Development Goal (SDG) 4: Quality Education Target 4.4, which states that by 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs, and entrepreneurship. A tracer study assesses how well education prepares graduates for employment, entrepreneurship, and lifelong learning. Moreover, it is also aligned with SDG 8: Decent Work and Economic Growth Target 8.5, which states that by 2030, achieve full and productive employment and decent work for all women and men, including for young people. This study tracks the employment status and career progression of graduates, highlighting how education contributes to productive employment, decent work, and inclusive economic growth. And lastly, it is aligned with SDG 17: Partnership for the Goals, wherein tracer studies often involve collaboration between academe, industry, and government, strengthening partnerships that ensure education programs align with labor market needs.

Significance of the Study

This study is conducted to benefit various stakeholders involved in the educational ecosystem:

Educational Institutions. To gain insights into how well the program prepares students for careers, and to be able to identify areas for curriculum improvement to align with industry needs.

Graduates and Alumni. To gain awareness of employment trends and career opportunities.

Students. To get better career preparation through enhanced programs, and to gain insights into potential career paths based on graduate experiences.

Future Researchers. Future researchers can utilize the data for further studies on education, employment, and labor trends which will contribute to knowledge on the impact of education on career development.

Overall, this research will support the College of Business Administration of Baguio Central University: the educational institutions, graduates and alumni, students, and future researchers.

Statement of the Problem

This study is focused on tracing the professional journey of the College of Business Administration Graduates Batch 2019 to 2023.

Specifically, it sought to answer the following questions:

What is the profile of the respondents?

What is the level of importance of the competencies/ skills for the College of Business Administration graduates?

What are the factors that contribute to the quality of education at the College of Business Administration?

Methodology

Research Design

The research design used for this study is descriptive. According to the Dovetail Editorial Team (2023), descriptive research provides an explanation of the characteristics of the group, situation, or event under investigation without making any adjustments or testing any hypotheses. It enables researchers to precisely and completely describe a population, circumstance, or phenomena. In particular, it applies the quantitative approach, which entails collecting information that can be measured and

processing it using a variety of statistical methods (Simplilearn, 2024). The researchers selected a survey questionnaire to collect the information required for this research. The researchers got information from the respondents using this strategy.

Locale and Population of the Study

This study specifically focused on the graduates of Baguio Central University in the College of Business Administration (CBA) from 2019 to 2023. The total population of this study is 139 graduates who were gathered from the registrar's office. Moreover, purposive sampling was used for this study, specifically the total population sampling, because it involves studying the whole population that possesses a specific set of traits (Laerd Dissertation, n.d.). The distribution is shown in the table below:

Table 1
Distribution of Respondents

Batch	Number of Graduates	Number of Respondents	Percentage	Rank
2019	24	19	79.17	2
2020	24	9	37.50	5
2021	33	17	51.52	3
2022	25	12	48.00	4
2023	33	30	90.91	1
TOTAL	139	87	62.59%	

Source: BCU Registrar’s Office (2024)

Table 1 shows the distribution of respondents and response rate by batch of the CBA graduates. Out of 139 graduates for the past five years from 2019 to 2023, 62.59% responded to our questionnaire, which was sent personally and through Facebook Messenger. According to Sataloff and Vontela (2021), the acceptable response rates in survey research are from 40 to 75% across different specialties. Therefore, the 62.59% response rate of this study is considered to be strong and acceptable.

Data Gathering Tools

The researchers used a survey to collect the information required for this investigation. Its structured style facilitates standardized data gathering, organization, and analysis; this is especially useful for quantitative research. This strategy gives researchers the ability to reach a broad audience, be accessible, and be economical, which enables the efficient gathering of comprehensive insights (Kuphanga, 2024).

A self-made questionnaire was formulated based on the different literature read by the researchers. There were three (3) parts of the questionnaire in this study of which, Part I is the profile of the respondents. Part II is the level of importance of the competencies or skills for the CBA graduates. Part III is the factors that contribute to the quality of education at the CBA. The content validity of the questionnaire was done during the proposal presentation. The data-gathering tool was presented to the panel members and was subjected to examination.

Data Gathering Procedures

The researchers followed all the existing Baguio Central University research protocols. First, the researchers prepared a letter of permission to conduct the study from the President and Vice President for Academic Affairs of the said university. And, before starting the collection of data, the researchers have its tool validated. Then, the researchers proceeded with the gathering of data. A letter of request was sent to the university's registrar's office for the list of names of the respondents. Then, a letter to the respondents was given with the self-made questionnaire administered either personally or through Google Forms. After the questionnaires were distributed, the researchers collected them, counted, evaluated, and interpreted the results.

Treatment of Data

The information collected for the study was categorized, examined, and shown in a number of tables. Data from the questionnaire responses of the respondents were analyzed using descriptive statistics such as frequency count, percentage, mean, and ranking.

This study adhered to all relevant ethical guidelines and regulations by Baguio Central University. The researchers ensured that ethical principles were upheld during the research process. The information gathered for this study will always be kept private, and no public information regarding the respondents will be disclosed. Hard copies of documents were stored in a secure, locked cabinet, and all data and electronic documents were maintained in a password-protected folder that is only accessible to the researchers. Additionally, those who responded to this survey did not receive any payment. Furthermore, the information gathered was kept on file for the duration of the study. The researchers plan to remove the softcopy files from their laptops after a year.

Dissemination of research findings is an important part of the research process; therefore, the researchers shared the results with Baguio Central University and will publish them in a journal, which is a requirement for the college to enhance its program.

Ethical Considerations

This study adhered to all relevant ethical guidelines and regulations set by the university. The researchers ensured that ethical principles were upheld during the research process.

Additionally, the researchers acknowledge the use of generative AI tools for authoring and editing the work, including QuillBot, Grammarly, and ChatGPT (Version: GPT-5, Source: OpenAI). AI support was used just to improve structure, coherence, and clarity by offering formatting recommendations, grammatical corrections, summary, text refining, and paraphrasing. The AI's function was restricted to improving language, though, and it won't help with data analysis or critical interpretation of results. The researcher's final manuscript will continue to be their exclusive creative output.

Results And Discussions

Profile of the Respondents

Analysis of the Profile of the Respondents According to their Gender

The data in Table 2 reveal that female respondents are the majority, having 68.97%, while 31.03% are male respondents. The gender disparity aligns with the general enrollment trend of increased female inclination to engage in business-related programs. With this, the findings of the study likely reflect more heavily on career experiences, challenges, and opportunities encountered by women in business professions than those of their male counterparts due to the predominance of female respondents. In a tracer study conducted by Valdez et al. (2023) and Nemiño et al. (2025), the authors argued that while initial employment might be similar, women faced more challenges related to salary and career progression than men. Another study by Johnson et al. (2019) looked at how gender affects post-graduation educational pursuits. It was shown that when it comes to postgraduate study, men and women may have distinct priorities and motives. These differences may be driven by career goals or societal expectations. Valdez (2023) also highlighted the importance of considering gender in tracer studies to understand the nuanced experiences and challenges faced by male and female graduates in their career paths.

Table 2
 Profile of the Respondents According to their Gender (n=87)

Gender	Frequency	Percentage	Rank
Male	27	31.03	2
Female	60	68.97	1
TOTAL	87	100.00	

Analysis of the Profile of the Respondents According to their Civil Status

Data shows that most of the respondents are still single, with a percentage of 73.56%, while 26.44% are married. Understanding the civil status of graduates can help analyze the trends in employment, job stability, and salary levels because variables like being married, single, or having dependents might influence flexibility, job preferences, and desire to relocate for work. Valdez (2023) also mentioned a study by Chen et al. (2018) that looked at the impact of marital status on professional development in another study and discovered that married people tended to place more value on stability and long-term career progress, whereas single people might be more interested in job mobility and exploration. These findings implicitly imply that civil status may influence graduates' career decisions and tracks, which may be a pertinent factor to take into account in tracer studies that examine educational pathways and employment outcomes.

Table 3
 Profile of the Respondents According to their Civil Status (n=87)

Civil Status	Frequency	Percentage	Rank
Single	64	73.56	1
Married	23	26.44	2
TOTAL	87	100.00	

Analysis of the Profile of the Respondents According to their Course The profile study shows that the largest group of responders (48.28%) are graduates of BSBA Financial Management, followed by Business Administration majors in Human Resource Development Management and other fields. According to this distribution, which is consistent with the college's enrollment patterns, the results of this program will have a significant impact on the tracer study's overall conclusions. The prominence of Financial Management graduates highlights the importance of tailoring curriculum and career support services to meet the evolving demands of the industry. The study of Cuadra et al. (2019) demonstrates that tracer studies offer crucial input for program improvement and labor market alignment. This kind of attention is vital for improving graduate employability and career trajectory.

Table 4
 Profile of the Respondents According to their Course (n=87)

Course	Frequency	Percentage	Rank
BSBA Financial Management	42	48.28	1
BSBA Human Resource Development Management	20	22.99	2
BSCS	7	8.05	4
BSOA	16	18.39	3
BSPA	2	2.30	5
TOTAL	87	100.00	

Analysis of the Profile of the Respondents According to their Year of Graduation

Table 5 shows that 34.48% of the respondents were recent graduates of the year 2023, followed by graduates of the year 2019 with 21.84%, while graduates of the year 2020 had the least representation with 10.34%. Analyzing the year of graduation of respondents helps identify how quickly graduates are employed and their career stability over the years, as it helps establish the time lag between graduation and employment. In addition, it could indicate the cohort of graduates who have stayed longer on the employment queue (World Bank, 2019).

Table 5
 Profile of the Respondents According to their Year of Graduation (n=87)

Year of Graduation	Frequency	Percentage	Rank
2019	19	21.84	2
2020	9	10.34	5
2021	17	19.54	3
2022	12	13.79	4
2023	30	34.48	1
TOTAL	87	100.00	

Employment Status of the Respondents

Analysis of the Employment Status of the Respondents

Most of the respondents are employed, with 75.86%, followed by 13.79% of self-employed and 10.34% are still unemployed during the duration of the study. According to recent tracer studies (Estacio & Baybado, 2025; Torrejas & Ordenanza, 2025), employment rates among graduates across disciplines typically range from about 70% to over 80%. A majority employment rate of roughly 75-76% indicates favorable labor market absorption of graduates, indicating that the educational program

of the college effectively prepares students for employment or that graduates possess skills that align with market demands.

Table 6
Employment Status of the Respondents (n=87)

Employment Status	Frequency	Percentage	Rank
Employed	66	75.86	1
Self-Employed	12	13.79	2
Unemployed	9	10.34	3
TOTAL	87	100.00	

Analysis of the Current Status of the Employed Graduates

Table 7 shows the current employment status of CBA graduates, where the majority are already permanent employees, having 56.32%, followed by contractual employees with 32.18%, and casual employees with 11.49%. This output aligns with other tracer studies that show similar employment distribution (Bersano et al., 2025; Estrellado et al., 2025), which mirrors global trends in graduate employment patterns in business fields. The findings also underscore the importance of graduate tracking to assess long-term career progression from casual to contractual to permanent employment, facilitating curriculum improvements and policy refinements (Nemiño et al., 2025).

Table 7
Current Status of the Employed Graduates (n=87)

Current Status	Frequency	Percentage	Rank
Permanent	49	56.32	1
Casual	10	11.49	3
Contractual	28	32.18	2
TOTAL	87	100.00	

Analysis of the Position of the Employed Graduates

As for the position of the employed graduates, 78.16% of the respondents are currently holding rank and file, 14.94% are in professional, technical, or supervisory positions, and 6.90% are in management or executive positions. Similar tracer studies by Reyes et al. (2025) and Dassun et al. (2025) revealed similar distribution, with most business administration graduates beginning in rank-and-file roles, but a steady progression into supervisory and managerial posts after several years, confirming typical career trajectories in business fields. Understanding the distribution of graduates across employment levels allows BCU-CBA to gauge how well their programs prepare students for

both entry-level and leadership roles and identify the gaps in transitions from rank-and-file positions to supervisory/managerial positions for curriculum enhancement.

Table 8
Position of the Employed Graduates (n=87)

Position	Frequency	Percentage	Rank
Rank and File	68	78.16	1
Professional, Technical, or Supervisor	13	14.94	2
Management or Executive	6	6.90	3
TOTAL	87	100.00	

Analysis of the Duration in the Job of the Employed Graduates

The data on the duration in the job of the employed graduates shows that the largest group, 36.78% have been employed for one year to less than two years, followed by 22.14% employed for one to six months, and smaller percentages in other durations, with 4.6% employed for less than a month. The high proportion of graduates suggests that many graduates have successfully transitioned from initial employment and are maintaining stable positions beyond the early employment phase, which is consistent with studies by Perlas et al. (2025); Torrejas and Ordaneza (2025). The 24.14% with short job duration (1-6 months) represents new hires or graduates recent to their jobs who are still in the early adjustment or probation period. This also indicates ongoing hiring trends and potentially fluidity in graduate employment as they seek the right roles (Estacio & Baybado, 2025). Analyzing the duration in the job of the employed graduates finds variations in employment rates, job security, and career advancement among graduating classes, which may be due to program modifications, labor market fluctuations, or changes in the economy. By comparing cohorts, BCU-CBA can assess how revisions to the curriculum, industry collaborations, or other interventions affect graduate outcomes (Salendab & Dapitan, 2025; Bersano et al., 2025).

Table 9
Duration in the Job of the Employed Graduates (n=87)

Duration in the Job	Frequency	Percentage	Rank
Less than a Month	4	4.60	7
1-6 Months	21	24.14	2
7-11 Months	7	8.05	5
1 year to less than 2 years	32	36.78	1
2 years to less than 3 years	10	11.49	3
3 years to less than 4 years	5	5.75	6
4 years and above	8	9.20	4
TOTAL	87	100.00	

Analysis of the Location of Work of the Employed Graduates

Data in Table 10 shows that 66.67% of the respondents work in Baguio City, 29.89% work elsewhere in the country, and 3.45% work abroad. Analyzing the location of work of respondents reveals the geographic distribution of employability outcomes and can highlight urban versus regional employment trends. A study by Torrejas and Ordaneza (2025) highlighted that tracking employment location helps evaluate how well the institution’s program aligns with the local, national, and international job markets and identifies where graduates are being absorbed. Understanding where graduates are working can guide curriculum relevance, training focus, and development of partnerships with local employers (Dassun et al., 2025) .

Table 10
Location of Work of the Employed Graduates (n=87)

Location of Work	Frequency	Percentage	Rank
Baguio City	58	66.67	1
Outside of Baguio City	26	29.89	2
Abroad	3	3.45	3
TOTAL	87	100.00	

Analysis of the Company/ Organization Operations of the Employed Graduates

The results of the study revealed that 88.51% of the CBA graduates are employed in domestic organizations and 11.49% are employed in international organizations. A similar study by Nemiño et al. (2025) indicates that the majority of business graduates tend to secure employment within local or domestic organizations, with a smaller but notable percentage working in international firms. This predominance of domestic employment reflects the graduates’ alignment with the local labor market and business environment, which often serves as the primary absorptive sector for newly graduated professionals. The presence of graduates in international organizations, although smaller, signals the global relevance and competitiveness of their skills. Analyzing the company or organization operations employing graduates provides insights into the economic sectors and types of organizations that absorb graduates, revealing the industries where business administration competencies are most utilized. By knowing where graduates are employed, education providers can assess whether their programs align with global standards and demands, informing continuous program improvement (Limama et al., 2025; Nemiño et al., 2025; Palupi et al., 2024).

Table 11
Company/Organization Operations of the Employed Graduates (n=87)

Company/Organization Operations	Frequency	Percentage	Rank
Domestic (Philippines only)	77	88.51	1
Global (Operates Internationally)	10	11.49	2
TOTAL	87	100.00	

Analysis of the Type of Company/Organization of the Employed Graduates

Among the companies or organizations where CBA graduates are employed, 72.41% are in government institutions, while 24% are in the private sector. This pattern highlights graduates’ tendency to pursue stable, civil service roles, often requiring specific qualifications like civil service eligibility (Limama et al., 2025). Since government and private sector jobs often differ in terms of job security, career progression, compensation, and skill requirements, knowing this distribution informs curriculum relevance and exposure to sector-specific competencies (Limama et al., 2025; Torrejas & Ordaneza, 2025). The dominance of the government sector in this study is consistent with both domestic and international research that highlights the significance of sectoral employment analysis. This analysis helps formulate policies for graduate employability, helps academic programs be tailored to workforce needs, and allows institutions to benchmark and innovate their program offerings for responsive education that meets labor market demands in both the public and private sectors (Perlas et al., 2025; Limama et al., 2025; Torrejas & Ordaneza, 2025).

Table 12
Type of Company/Organization of the Employed Graduates (n=87)

Types of Company/ Organization	Frequency	Percentage	Rank
Government	63	72.41	1
Private	24	27.59	2
TOTAL	87	100.00	

Analysis of the First Job after Graduation of the Employed Graduates

The data from the First Job after Graduation of the Employed Graduates table shows that 77.01% of the employed graduates started as rank-and-file employees, 5.75% in technical or supervisory roles, and 3.45% in managerial positions, while 13.79% were not applicable (self-employed or unemployed). This distribution reflects the common entry-level employment pattern among fresh graduates. According to Calma (2019), business graduates typically begin in operational roles that serve

as a foundation for career advancement. The prevalence of rank-and-file employment suggests that the CBA curriculum effectively prepares students for immediate workforce integration by providing essential technical and interpersonal skills. Garavan et al. (2022) emphasize that initial employment experiences are crucial for skill application and professional identity formation. The small share of graduates who entered supervisory or managerial roles may indicate prior work experience, leadership aptitude, or exposure from internships. As Fugate et al. (2020) noted, employability is determined not only by technical skills but also by adaptability and human capital, attributes clearly evident among CBA graduates. Furthermore, the “Not Applicable” responses likely include graduates who pursued self-employment or further studies, aligning with CHED’s (2024) emphasis on entrepreneurship and innovation within business programs. Overall, these findings affirm that the CBA program produces work-ready graduates capable of succeeding in structured employment or entrepreneurial pursuits, consistent with Cuadra et al. (2019) who link curriculum relevance to early employability.

Table 13
First Job after Graduation of the Employed Graduates (n=87)

First Job after Graduation	Frequency	Percentage	Rank
Rank and File	67	77.01	1
Professional, Technical, or Supervisor	5	5.75	3
Management or Executive	3	3.45	4
N/A	12	13.79	2
TOTAL	87	100.00	

Analysis if the First Job was Aligned to the Degree of the Employed Graduates

The analysis of the First Job being Aligned to the Degree of the Employed Graduate table reveals that 60.92% of the respondents’ first jobs were aligned with their degree, while 39.08% were not aligned. The majority alignment demonstrates that the CBA curriculum remains relevant to industry needs, ensuring that graduates possess competencies applicable to business and administrative functions. This supports Cuadra et al. (2019) and Naughton (2021), who emphasized that strong academic–industry linkages and outcome-based learning enhance job relevance and placement rates. However, the sizable percentage of graduates whose first jobs were not aligned with their degrees reflects the flexibility and adaptability of business graduates. Fugate et al. (2020) assert that employability extends beyond specialization, where graduates’ transferable skills, such as communication, critical thinking, and problem-solving, enable them to thrive even outside their major field. Similarly, Garavan et al. (2022) found that experiential learning fosters career adaptability, allowing graduates to perform across diverse work

environments. While complete alignment between academic preparation and employment remains ideal, the presence of cross-field employment indicates the program’s success in producing versatile and resilient professionals. This finding echoes Borah et al. (2023) and Manuel and Ignas (2024), who observed that flexibility in employment outcomes signifies graduates’ capacity to adapt to labor-market shifts rather than a weakness in curriculum design.

Table 14
The First Job was Aligned to the Degree of the Employed Graduates (n=87)

The First Job was Aligned to the Degree	Frequency	Percentage	Rank
Yes	53	60.92	1
No	34	39.08	2
TOTAL	87	100.00	

Analysis of the Monthly Gross Income of the Employed Graduates

The Monthly Gross Income of the Employed Graduates shows that most employed graduates (41.38%) earn between ₱10,000–₱14,999 per month, followed by 24.14% earning ₱15,000–₱19,999, and a smaller portion (6.90%) receiving ₱25,000 and above. These figures indicate that the majority of graduates receive entry-level salaries, which is typical for newly employed professionals in the Philippine labor market and according to Garavan et al. (2022), early-career earnings reflect a stage of skill building and professional adjustment, with income growth tied to experience and continuous learning. This supports the view that the CBA curriculum effectively prepares students for employability, providing a foundation for upward mobility. Similarly, Cuadra et al. (2019) emphasized that initial income levels and employment stability are indicators of curriculum relevance and labor market readiness. Although a small group earns below ₱10,000, this likely represents transitional or probationary employment. As Fugate et al. (2020) note, employability capital—comprising adaptability and human capital, enables graduates to progress toward higher income brackets over time. Thus, the income distribution demonstrates that CBA graduates are competitively positioned in the job market and capable of achieving long-term career and financial growth.

Table 15
Monthly Gross Income of the Employed Graduates (n=87)

Monthly Gross Income	Frequency	Percentage	Rank
Below P 5,000.00	2	2.30	6
P 5,000.00 – P 9,999.99	13	14.94	3
P 10,000.00 – P 14,999.99	36	41.38	1
P 15,000.00 – P19,999.99	21	24.14	2

P 20,000.00 – P 24,999.99	7	8.05	5
P 25,000 and above	8	9.20	4
TOTAL	87	100.00	

Analysis of the Self-Employed Graduates

According to the table, among graduates who work for themselves, 47.37% are independent contractors, 42.11% are company owners, and 10.52% run family enterprises. These numbers show that a sizable percentage of CBA alumni go on to follow independent and entrepreneurial career paths, which is consistent with the program's focus on self-reliance and company innovation. This result is in line with CHED's (2024) recommendation that creativity and entrepreneurship be incorporated into higher education programs in order to promote employment creation as opposed to job searching. conventional work schedules. Similarly, Cuadra et al. (2019) underscored that entrepreneurship education enhances graduates’ employability and economic contribution by encouraging business formation and freelance ventures. The prominence of freelancers suggests that graduates are adapting to flexible and digital labor markets, consistent with Borah et al. (2023), who emphasized that modern business education should prepare students for emerging, non-traditional work arrangements. Meanwhile, the substantial share of business owners demonstrates the CBA program’s success in cultivating entrepreneurial competencies and risk-taking behavior.

Table 16
Self-Employed Graduates (n=87)

Self-Employed Graduates	Frequency	Percentage	Rank
Business Owner	8	42.11	2
Freelance	9	47.37	1
Individual Contractor	0	0.00	4
Others: agriculture, direct selling	2	10.53	3
TOTAL	19	100.00	

Analysis of the Unemployed Graduates

Regarding unemployed graduates, Table 17 shows that 46.67% are still looking for work, 33.33% are taking care of family matters, 13.33% are dealing with health-related issues, and 6.67% are continuing their education. These findings show that, consistent with normal post-graduation adjustment periods, the majority of graduate unemployment is transitional rather than structural and according to Calma (2019), many business graduates experience a short period of job searching before obtaining stable employment, as aligning personal qualifications with market opportunities takes time. The findings also support Fugate et al.

(2020) view that employability involves adaptability and readiness to respond to changing job conditions, implying that these graduates are still in the process of positioning themselves within the labor market. Family-related and health reasons suggest personal priorities temporarily delaying entry into employment, while a small percentage pursuing further studies demonstrates a commitment to continuous learning, an aspect emphasized by Garavan et al. (2022) as vital for long-term career development. Overall, the data show that unemployment among CBA graduates is situational and short-term, not a reflection of academic inadequacy. This finding aligns with Cuadra et al. (2019), who asserted that effective business programs produce graduates who remain employable even when temporarily out of work due to personal or contextual factors.

Table 17
Reasons of the Graduates who are Unemployed (n=87)

Reasons of the Graduates	Frequency	Percentage	Rank
Family Concern	5	33.33	2
Advance or Further Studies	1	6.67	4
Health Concern	1	6.67	4
Still Applying	7	46.67	1
Did not look for a job	1	6.67	4
Others	0	0.00	6
TOTAL	15	100.00	

Level of Importance of the Competencies/ Skills for the CBA Graduates

The graduates evaluated all of the specified competencies as "Very Important," according to Table 18, with problem-solving (2.98), critical thinking (2.97), and interpersonal skills (2.94) having the highest mean values. These findings imply that CBA graduates understand the value of social and cognitive abilities in attaining success in the workplace. According to Fugate et al. (2020), employability is built on adaptability and psychosocial competencies, which enable graduates to navigate dynamic work environments. Similarly, Garavan et al. (2022) emphasized that experiential and outcome-based learning enhance these key competencies, preparing graduates to address real-world challenges effectively. The prioritization of analytical and interpersonal skills also supports Naughton’s (2021) assertion that business education must equip students with critical reasoning and collaborative abilities to stay competitive in a technology-driven economy. Moreover, Cuadra et al. (2019) noted that such competencies reflect the success of well-designed curricula that align academic outcomes with industry expectations. The findings confirm that the CBA program effectively develops the essential professional skills demanded by employers—skills that foster employability, adaptability, and leadership among its graduates.

Table 18
 Level of Importance of the Competencies/ Skills for the CBA Graduates (n=87)

Level of Importance of the Competencies/ Skills for the CBA Graduates	3 (VI)	2 (MI)	1 (NI)	TWP	WM	DE	Rank
1. Critical Thinking Skills	84	3	0	258	2.97	VI	2
2. Human Relations/ Interpersonal Skills	82	5	0	256	2.94	VI	3
3. Entrepreneurial Skills	66	21	0	240	2.76	VI	9
4. Information Technology Skills	72	15	0	246	2.83	VI	7
5. Problem-Solving Skills	85	2	0	259	2.98	VI	1
6. Research and Extension Skills	61	26	0	235	2.70	VI	10
7. Communication Skills	81	6	0	255	2.93	VI	4
8. Lifelong Learning	77	10	0	251	2.89	VI	5
9. Reflective Leaders	68	18	1	241	2.77	VI	8
10. Core Values Formation	75	12	0	249	2.86	VI	6
Average Mean					2.86	VI	

Perceived Level of Usefulness of College Seminars or Training to Present Job

Table 19 of the study shows that 51.72% of graduates thought their college seminars and trainings were “Very Relevant” to their current job, 37.93% thought they were “Relevant,” and 10.34% thought they were “Slightly Relevant.” These findings demonstrate the importance of experiential learning and extracurricular activities in improving employability and workplace readiness. According to Cuadra et al. (2019), industry-based seminars and training provide opportunities for students to apply theoretical knowledge in practical contexts, thereby improving their transition into professional roles. This is supported by Garavan et al. (2022), who emphasized that experiential learning and lifelong development significantly improve graduates’ job performance and adaptability. Similarly, Smith et al. (2022) found that participation in internships, workshops, and business simulations increases students’ confidence and skill transfer to real-world work settings. Moreover, the findings align with CHED’s (2024) Outcome-Based Education framework, which stresses that co-curricular experiences must complement classroom instruction to develop holistic graduates. Tymon (2019) also noted that employer-valued attributes such as teamwork, communication, and problem-solving are best strengthened through applied learning activities rather than traditional lectures alone. These

results affirm that BCU’s CBA program effectively integrates relevant seminars and trainings, helping graduates acquire both technical competence and soft skills that contribute directly to employability and career advancement.

Table 19
Perceived Level of Usefulness of College Seminars or Training to Present Job (n=87)

Perceived Level of Usefulness of College Seminars or Training to Present Job	Frequency	Percentage	Rank
Very Relevant	45	51.72	1
Relevant	30	34.48	2
Fairly Relevant	12	13.79	3
Not Relevant	0	0.00	4
TOTAL	87	100.00	

Factors that Contribute to the Quality Education at the College of Business Administration

As reflected in Table 20, the leading factors identified by graduates as contributors to educational quality were curriculum and course content (57.47%), methods of instruction (24.14%), and faculty competence (9.20%). These findings underscore that the CBA program’s curriculum design and teaching strategies play a pivotal role in achieving high educational standards and graduate satisfaction.

Cuadra et al. (2019) highlighted that curriculum relevance to labor market demands is a core indicator of higher education effectiveness. CHED (2024) likewise mandates that programs undergo periodic review to ensure that content remains responsive to industry trends and emerging business needs. The importance of instructional methods supports Garavan et al. (2022), who found that experiential and student-centered learning approaches promote deeper understanding and transferable skills. Additionally, Altbach et al. (2019) argued that teaching quality and faculty expertise are integral components of academic excellence and institutional reputation. The acknowledgment of faculty competence by graduates therefore reflects positively on the university’s commitment to maintaining qualified and effective educators. Naughton (2021) further asserted that faculty mentorship and interactive pedagogy directly shape students’ professional identity and career readiness. To sum up, the findings indicate that curriculum innovation, effective pedagogy, and capable faculty members collectively define the quality of education in the CBA program, ensuring that graduates are both academically competent and employable in a dynamic business environment.

Table 20
 Factors that Contribute to the Quality Education at the College of Business Administration (n=87)

Factors that Contribute to the Quality of Education at the College of Business Administration	Frequency	Percentage	Rank
Curriculum/ Course Content	50	57.47	1
Methods of Instruction	21	24.14	2
Faculty	8	9.20	3
Facilities (Library)	2	2.30	5
Facilities (Laboratories-Computer Laboratory, Simulation Room)	6	6.90	4
Student Services	0	0.00	6
TOTAL	87	100.00	

Suggestions to Help Improve the Educational Experience of BCU CBA Students

The recommendations made by the graduates for enhancing the CBA curriculum are shown in Table 21. Common themes include increased training and seminars, increased exposure to the industry, and a stronger incorporation of real-world business experiences. These findings show that graduates see industry involvement and applied learning as essential to connecting study from Garavan et al. (2022) who emphasized that experiential professional practice and academic theory. With the help of the learning—through internships, simulations, and company immersion—cultivates practical competence and employability. Similarly, Nabi et al. (2018) found that exposure to real business environments enhances entrepreneurial intent and innovation among business graduates. The respondents’ suggestions also echo Cuadra et al. (2019), who recommended the use of tracer study feedback to guide continuous curriculum development and ensure relevance to industry trends. Jackson and Tomlinson (2021) also stressed that curriculum updates must integrate employability attributes such as critical thinking, communication, and digital literacy to prepare graduates for global labor market demands which aligns with CHED’s (2024) push for outcome-based and industry-partnered curriculum design. Collectively, these findings imply that the CBA program should continue strengthening its experiential and industry-linked components to sustain its graduates’ competitiveness. The graduates’ feedback thus serves as valuable input for ongoing quality assurance and curriculum enhancement.

Table 21
 Suggestions to Help Improve the Educational Experience of BCU CBA Students

Suggestions to Help Improve the Educational Experience of BCU CBA Students	Frequency	Percentage	Rank
More seminars/ trainings or real workplace experiences	13	19.40	1.5
Empathy-based teaching	3	4.48	
More staff or instructor/ hire more competitive facilitators	6	8.96	4.5
Scheduling of subjects	1	1.49	12
Add more computer laboratory	1	1.49	12
More digital study materials/ more books related to major subject/ more book references	6	8.96	4.5
More activities and lectures, interactive and applied learning, hands on learning and case studies	13	19.40	1.5
Curriculum focus and career development	3	4.48	8
Improve facilities to attract more students/ strengthen internet connections	2	2.99	9
Be adoptive to innovations and technology advancement	4	5.97	6.5
Enhance research opportunities	1	1.49	12
Improve method of teaching, more real-life situations/ learnings	8	11.94	3
For OJT's more exposure to bigger industries for easy adaptation to work/ collaboration with businesses and companies	4	5.97	6.5
Adapt to the changing demands of students	1	1.49	12
Student Feedback System	1	1.49	12
TOTAL	67	100.00	

Conclusions and Recommendations

In conclusion, the tracer study reveals that the College of Business Administration has effectively equipped its graduates with the competencies necessary for successful employment and career development. The majority of respondents, predominantly female and single, are employed—mostly in rank-and-file positions within local organizations and government institutions—indicating strong labor market absorption and curriculum relevance to regional needs. The graduates' employment patterns reflect both stability and adaptability, as many hold positions aligned with their degrees while others demonstrate flexibility through self-employment or work in non-aligned fields. Their recognition of problem-solving, critical thinking, and interpersonal skills as vital to their careers underscores the program's success in cultivating essential professional competencies. Furthermore, the perceived relevance of seminars and trainings highlights the importance of experiential and applied learning. Overall, the study affirms the effectiveness of the CBA program in fostering employability and career readiness while emphasizing the need to strengthen industry partnerships and practical learning opportunities to further align education with workforce demands.

Based on the findings and conclusions of the study, it is recommended that the College of Business Administration strengthen its experiential learning initiatives by providing students with more opportunities for internships, industry immersions, and on-the-job training to ensure that theoretical knowledge is effectively applied in real workplace settings. Establishing stronger partnerships with local industries, business organizations, and government institutions in Baguio City is also encouraged to align the curriculum with current labor market needs and enhance employment opportunities for graduates. Furthermore, the college should integrate more structured career development and employability programs, such as career readiness seminars, mentorship activities, and job fairs, to further develop essential competencies like communication, interpersonal, and critical thinking skills. Considering the significant number of graduates employed in government institutions, it is likewise recommended that the curriculum incorporate modules related to public administration, governance, and civil service eligibility to better prepare students for public sector careers. In addition, promoting entrepreneurship through enhanced business incubation, financial literacy training, and entrepreneurship-focused courses can support graduates who wish to pursue self-employment or establish their own enterprises. Finally, it is suggested that the college institutionalize regular tracer studies and to identify the specific work or positions of graduates who are employed and self-employed in the next study. In addition, it is suggested that the college institutionalize regular curriculum evaluations to

continuously assess employment trends, monitor graduate outcomes, and ensure that program offerings remain responsive to evolving industry demands.

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ENHANCING SOFT AND HARD SKILLS IN HOTEL AND TOURISM MANAGEMENT FOCUSING ON COMMUNICATION

An Institutional Research

Presented to the Research and Development Center

BAGUIO CENTRAL UNIVERSITY

Baguio City

Aiza Bheal M. Kitani

Teresa Lyn D. Matiwtiw

Angelo A. Bayacsan

Jocelyn B. Ang

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Abstract

This quantitative descriptive study explored the perceived balance of soft and hard skills, the challenges in developing strong communication, and the strategies advocated by Hotel and Tourism Management (HTM) students at Baguio Central University. Employing total enumeration sampling, the study collected data via a validated survey instrument from the entire student body of the College of Hotel and Tourism Management. The findings revealed a strong overall agreement that the HTM program successfully integrates skills, with the highest weighted mean (WM = 4.22) affirming the effectiveness of practical training in developing both technical and communication skills, supporting the Human Capital Theory.

Conversely, students identified a critical gap in applied communication iv competence, reporting the lowest mean score (WM = 3.08) for limited opportunities to practice interpersonal skills in coursework. This disconnects, coupled with moderate challenges in language barriers and public speaking confidence, highlights a conflict with the CompetencyBased Theory, which demands performance-based skill mastery. To address these challenges, students overwhelmingly supported performance-driven strategies (WM range: 4.37–4.74), particularly increasing industry exposure (WM = 4.74), soft skills training, and roleplaying, thus validating the principles of Service Quality Theory. The study recommends that HTM programs immediately implement mandatory, performance-based communication activities and formalize a comprehensive competency framework through expanded industry partnerships and the integration of technology-driven training tools to ensure the production of service-quality-ready graduates.

Keywords: Soft skills, Hard skills, Communication skills, Hospitality education, Competency-Based Theory, Service Quality Theory, Experiential learning

Introduction

The hotel and tourism industry are one of the fastest-growing sectors globally, requiring professionals to possess a combination of soft and hard skills to remain competitive. According to the World Travel & Tourism Council (WTTC, 2023), the industry contributes significantly to global employment, emphasizing the need for highly skilled professionals who can adapt to dynamic customer demands. Among these essential competencies, communication skills play a crucial role in guest satisfaction, conflict resolution, and overall service quality (Solnet et al., 2020). While technical expertise in hotel operations and tourism

management is vital, the ability to communicate effectively enhances service delivery and strengthens customer relationships (Baum, 2019).

Building upon this global perspective, the importance of soft and hard skills is particularly evident in developing countries like the Philippines, where tourism serves as a key economic driver. The Department of Tourism (DOT) reported that in 2022, the industry contributed 6.2% to the country's GDP, highlighting the increasing demand for well-trained professionals (DOT, 2022). According to Walden University, hard skills are job-related competencies and abilities that are necessary to complete work, while soft skills are personal qualities and traits that impact how you work. Hard skills are often applicable to a certain career; soft skills are transferable to any type of job.

However, despite the industry's expansion, recent studies suggest that many graduates of hotel and tourism management programs face difficulties in demonstrating strong communication skills, which in turn affects their employability and career progression (Cruz et al., 2021). This gap between academic training and industry expectations underscores the need to strengthen both soft and hard skill development, particularly in communication (Santos & Ramos, 2020).

Moreover, it has been reported that Malaysian employers have revealed that many graduates are still unprepared for the workforce, such as lacking English proficiency, communication skills, or difficulty in exercising critical-thinking skills (NST Education, 2019). Communication skills, including proficiency in the English language, are often highlighted as a specific area of weakness, which can negatively impact job interviews and professional positions.

Similarly, hospitality and tourism institutions across different regions in the Philippines are working to integrate communication training into their curricula. However, despite these efforts, employers continue to express concerns about graduates' lack of practical communication skills, particularly in handling guest interactions, conflict management, and teamwork (Garcia & Mendoza, 2022). This ongoing issue suggests that current educational strategies may not be sufficient in fully preparing students for the realities of the industry.

Therefore, there is a pressing need for academic institutions to adopt innovative approaches to skill development, ensuring that students are well-equipped to meet industry demands.

Communication skills have been extensively studied in relation to the hospitality industry, with various studies shedding light on their significance (Loreto, 2019). For instance, Tankovic (2022) has conducted

a study aiming to comprehend and conceptualize the multidimensional nature of communication skills in the modern tourism workplace. According to Tankovic et al (2022), there are five dimensions of communication skills, which are written, oral, listening, digital, and nonverbal communication skills.

Purpose of the Study

These study aims to explore how hotel and tourism management programs can enhance the integration of both soft and hard skills, with a special focus on communication specifically where students having a hard time. By identifying key challenges and best practices, this research seeks to provide practical recommendations that will help improve educational strategies, better align training with industry standards, and ultimately enhance the career readiness of hospitality and tourism graduates.

Significance of the Study

This study is highly significant as it offers crucial insights into how Hotel and Tourism Management students perceive the essential balance between soft and hard skills, with a particular focus on communication which is a critical competency in the hospitality and tourism industry (Tanković et al., 2021). The findings will directly address the existing gap between academic training and industry expectations, thereby better preparing future professionals to navigate the dynamic demands of the global tourism sector (RAJ et al., 2023).

For Students: The research will empower students to recognize the paramount importance of developing both technical and interpersonal skills for their professional growth and sustainable employability (Piol, 2023). By understanding their own challenges and strengths in these areas, students can proactively enhance their communication and other employability skills (Piol, 2023).

For Educators and Academic Institutions: The results of this research will serve as an evidence-based guide for curriculum enhancement and pedagogical innovation within HTM programs. It will provide actionable recommendations for improving teaching strategies, integrating more practical communication training, and fostering a learning environment that effectively cultivates both technical proficiency and crucial soft-skill development. This alignment is vital for producing graduates who are well-prepared for a volatile future in the industry (Oskam et al., 2021).

For Industry Practitioners and Employers: The study's outcomes can serve as a valuable reference for aligning internship programs and

recruitment standards with the actual competencies required in the workplace (Qian et al., 2022). This alignment is expected to lead to a more qualified and job-ready workforce, ultimately contributing to higher service quality and enhanced customer satisfaction within the hospitality and tourism industry (RAJ et al., 2023). There is a continuous demand for well-trained professionals who can provide high-quality services and a competitive edge (RAJ et al., 2023).

For Future Researchers: This study provides a foundational reference for further investigations into skill development, communication challenges, and employability within the tourism and hospitality field (Kirillova & Au, 2020). By emphasizing the critical balance of soft and hard skills, this research contributes to the broader objective of producing competent, adaptable, and globally competitive graduates, thereby supporting national and international efforts toward quality education and sustainable economic growth.

Conceptual & Theoretical Framework

The importance of both soft and hard skills in the hospitality and tourism industry has been widely researched across different contexts. Studies have shown that while technical skills are essential for operational efficiency, soft skills, particularly communication, are what set apart high-performing professionals (Baum, 2019). For instance, a study by Solnet et al. (2020) emphasized that effective communication enhances guest experiences, increases customer retention, and fosters teamwork among employees. Their research found that hospitality graduates who lacked strong communication skills often struggled to advance in their careers despite having adequate technical knowledge. Similarly, in the Southeast Asian region, studies have highlighted the growing demand for communication skills among hospitality professionals. A study conducted in Thailand by Pholphirul (2021) revealed that hotels prefer employees who demonstrate strong interpersonal communication skills, as these abilities contribute to higher guest satisfaction and operational success. The research further indicated that industry employers value language proficiency and customer service communication as critical competencies.

In the Philippine context, several studies have examined the gaps in hospitality education and their impact on employability. Cruz et al. (2021) investigated the preparedness of hospitality graduates and found that while many possessed technical competencies in food and beverage service, front office operations, and housekeeping, they often lacked the necessary soft skills, especially communication. This gap negatively affected their ability to handle guests effectively and limited their career growth. Similarly, Garcia and Mendoza (2022) explored employer

perceptions of hospitality graduates and reported that poor communication skills were a recurring concern among recruiters. Their findings suggested that while graduates were well-versed in industry procedures, their inability to communicate confidently and professionally hindered their workplace performance.

Human Capital Theory (Becker, 1964)

Human Capital Theory (HCT) was introduced by Gary S. Becker (1964) and posits that individuals and organizations invest in education, training, and skill development to enhance productivity and economic value. According to Becker, human capital—comprising knowledge, skills, and abilities—functions similarly to physical capital in that investments in it led to increased efficiency and higher returns in the labor market. This theory is widely used to explain the link between education and workforce productivity, emphasizing the importance of continuous learning and skill enhancement (Schultz, 1971).

In the context of service industries like hospitality and tourism, Human Capital Theory underscores that employees who receive proper training and develop essential competencies contribute more effectively to service delivery, customer satisfaction, and organizational success. Employers, therefore, seek individuals who possess a well-balanced combination of hard skills (technical abilities) and soft skills (interpersonal and communication skills) to ensure service excellence. Human Capital Theory serves as a strong foundation for this study as it reinforces the idea that developing both soft and hard skills—especially communication—enhances employability, service quality, and overall industry success. By investing in skill development through education and training, hotel and tourism professionals can increase their marketability, improve workplace performance, and contribute to the sustained growth of the hospitality sector. This study aims to identify strategies that will bridge the communication skills gap, ensuring that hospitality graduates are well-equipped to meet industry demands.

Competency-Based Theory (McClelland, 1973)

Competency-Based Theory emphasizes that individuals must acquire specific competencies, both technical and interpersonal, to perform effectively in their roles. In hospitality and tourism management, this means that educational programs should focus on developing a balanced set of skills that align with industry expectations. By integrating communication training into curricula, institutions can ensure that graduates are well-prepared for the workforce. Competency-Based Theory is widely used in education, human resource development, and workforce training to design skill-focused curricula, assessment tools, and training

programs that align with industry needs (Boyatzis, 1982). Unlike traditional education models that focus on theoretical knowledge, competency-based approaches prioritize practical skills and real-world applications, ensuring that individuals are job-ready upon entering the workforce.

In the context of hotel and tourism management, CompetencyBased Theory is highly relevant as it highlights the need for both soft and hard skills in professional development. While technical proficiency in hotel operations, food service, and tourism management forms the foundation of industry expertise, communication skills are equally critical for guest interactions, teamwork, and conflict resolution (Solnet et al., 2020). However, many hospitality graduates enter the workforce with strong technical capabilities but lack the necessary soft skills, particularly in effective communication, emotional intelligence, and cultural awareness (Garcia & Mendoza, 2022). Competency-Based Theory suggests that educational institutions should integrate skillfocused training, performance-based assessments, and experiential learning opportunities to ensure that students develop both technical and interpersonal competencies before entering the industry (Cruz et al., 2021).

Applying Competency-Based Theory to hospitality education underscores the need for learning environments that go beyond traditional classroom instruction. Instead, students should engage in industry simulations, role-playing activities, internships, and real-world interactions that allow them to refine their communication abilities in professional settings. Furthermore, competency-based certification programs can help standardize communication skills assessment, ensuring that graduates meet industry expectations and enhance their employability (Santos & Ramos, 2020). As the tourism and hospitality industry continues to evolve, organizations are increasingly prioritizing candidates who can demonstrate strong communication skills alongside technical expertise, reinforcing the importance of competency-based training approaches in higher education. By incorporating CompetencyBased Theory into this study, the research aims to explore strategies for bridging the communication skills gap in hotel and tourism management programs, ultimately improving student preparedness and workforce readiness.

Service Quality Theory (Parasuraman, Zeithaml, & Berry, 1988)

Service Quality Theory highlights the importance of communication in delivering exceptional customer service. According to this theory, service quality is determined by factors such as reliability, responsiveness, assurance, empathy, and tangibles. Effective communication plays a key role in meeting customer expectations and enhancing overall service experiences in the hospitality industry.

Service Quality Theory, introduced by Parasuraman, Zeithaml, and Berry (1988), provides a framework for understanding how customers perceive service quality and how organizations can improve service delivery to meet or exceed customer expectations. The theory is grounded in the SERVQUAL model, which identifies five key dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. According to Parasuraman et al. (1988), service quality is determined by the gap between customer expectations and actual service performance. When expectations are met or exceeded, customer satisfaction increases, leading to positive word-of-mouth, repeat business, and long-term loyalty. However, if there is a significant discrepancy between expected and perceived service, it results in customer dissatisfaction, which can negatively impact a business's reputation and profitability.

In the context of the hospitality and tourism industry, Service Quality Theory is particularly relevant as guest satisfaction is a primary driver of business success. One of the most critical aspects of service delivery in this industry is effective communication, which directly influences customer perceptions of service quality. Hospitality professionals who possess strong verbal and non-verbal communication skills are better equipped to provide personalized service, resolve guest concerns, and enhance the overall customer experience (Solnet et al., 2020). For instance, front desk agents, restaurant servers, and tour guides must actively listen to guests, provide clear and courteous responses, and anticipate customer needs, all of which contribute to higher satisfaction levels (Pholphirul, 2021). The assurance and empathy dimensions of the SERVQUAL model highlight how communication fosters trust, professionalism, and emotional connections with guests, reinforcing its importance as a key competency in the hospitality sector.

Despite the increasing demand for strong communication skills in hotel and tourism management, research suggests that many graduates enter the workforce lacking proficiency in guest interaction, conflict resolution, and cross-cultural communication (Garcia & Mendoza, 2022).

Applying Service Quality Theory to hospitality education underscores the need for skill development programs that emphasize communication as a core competency. Training in areas such as active listening, problemsolving, and handling guest complaints can help future professionals bridge the gap between customer expectations and service performance, ultimately improving overall service quality. Additionally, competencybased assessments and real-world simulations can enhance students' ability to deliver high-quality service interactions in diverse hospitality settings (Cruz et al., 2021).

By integrating Service Quality Theory into this study, the research aims to explore how enhancing communication skills in hospitality education can lead to improved service quality and customer satisfaction. Given the competitive nature of the industry, organizations that invest in training employees in both technical and communication skills are more likely to achieve higher guest retention rates and sustained business success. This theory supports the argument that developing soft skills, particularly communication, is just as important as technical expertise in ensuring service excellence in hotel and tourism management.

Statement of the Problem

This study sought to explore and enhance the development of both soft and hard skills in hotel and tourism management, with a specific focus on improving communication skills to better prepare students and professionals for industry demands. It specifically seeks to answer the following objectives:

Level of extent how HTM students agree or disagree on balancing soft and hard skills in Hotel and Tourism Management.

Level of extent how HTM students agree or disagree on Challenges in Developing Strong Communication Skills

Level of extent how HTM students agree or disagree on Strategies to Address Communication Challenges

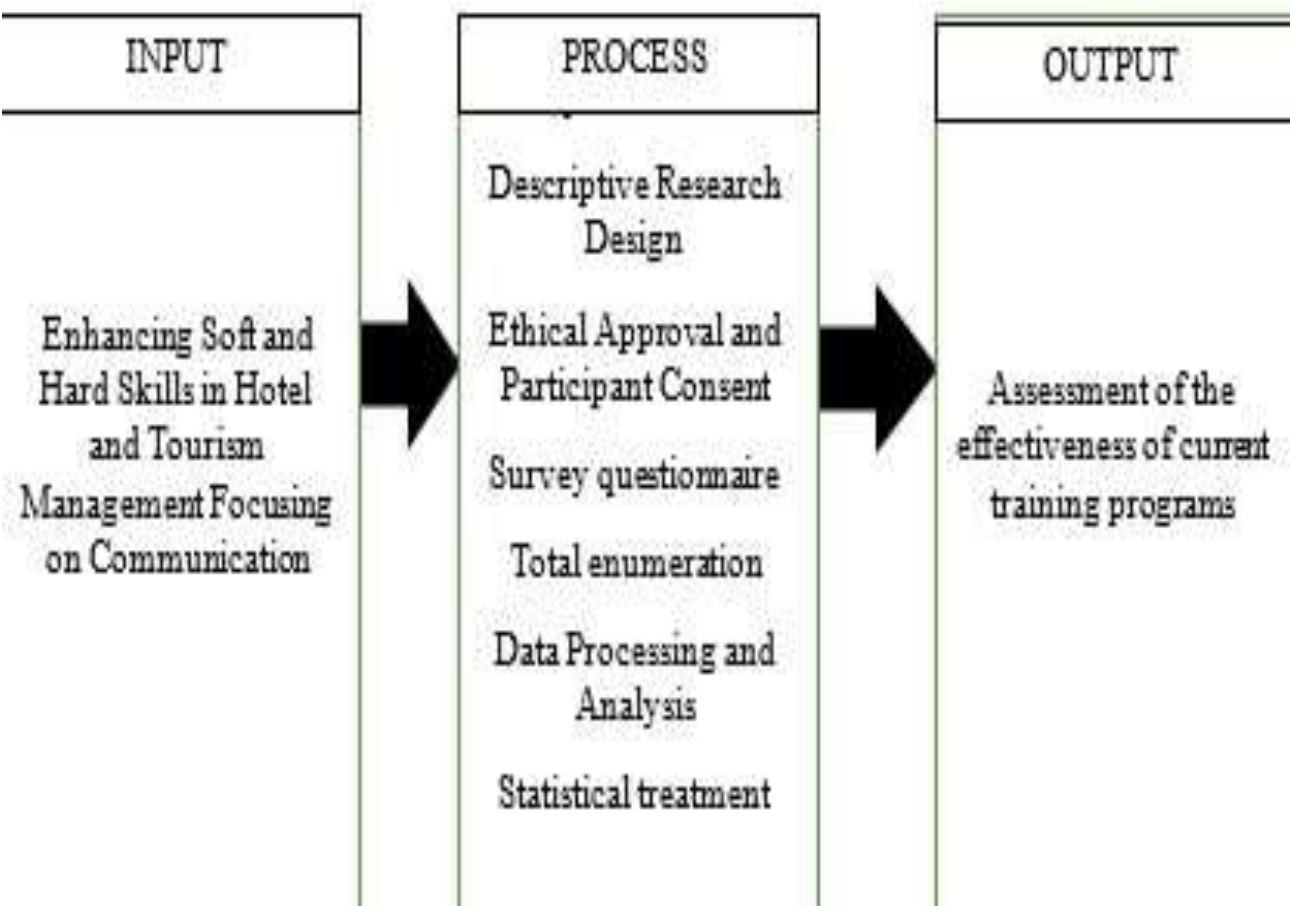


Figure 1.1 The Research Paradigm

Figure 1.1 This diagram illustrates the systematic flow of the study, from identifying key concepts (input), implementing research methodologies (process), to evaluating training program effectiveness (output) in enhancing soft and hard skills in hotel and tourism management, with a focus on communication.

Methodology

Research Design

This study employed a quantitative descriptive research design to analyze the development of soft and hard skills, particularly communication, in hotel and tourism management. A quantitative design was selected because it allowed for the systematic collection and analysis of numerical data, which provided an objective understanding of the competency levels, challenges, and areas for improvement in hospitality education (Creswell & Creswell, 2023). Specifically, a descriptive research design was deemed appropriate as its primary aim was to detail the current state of communication skills within the education program. Descriptive research was utilized to present an accurate snapshot of existing conditions and trends without manipulating variables (Saunders et al., 2019). This design facilitated the identification of skill gaps, the assessment of current training program effectiveness, and the exploration of employer expectations regarding communication competencies. It did not seek to establish causal relationships but focused instead on providing a detailed, factual representation of the phenomenon under investigation (Babbie, 2021).

Locale and Population of the Study

The entire student body of the College of Hotel and Tourism Management at Baguio Central University constituted the study's population. Researchers opted for total enumeration sampling of 258 students, a technique where every member of the population is studied (Creswell & Creswell, 2023), thereby minimizing sampling bias and enhancing the reliability of the results.

Total enumeration was highly suitable due to the relatively manageable size of the College's population. Furthermore, since the research intended to deliver a comprehensive analysis of skill gaps and communication challenges across the student body, this complete data collection increased the accuracy, representativeness, and generalizability of the findings beyond what a sample could offer. This methodology delivered a detailed, holistic view of student preparedness, ensuring the ensuing recommendations were highly targeted and beneficial.

The study took place at the College of Hotel and Tourism Management at Baguio Central University. This specific institutional setting was chosen as an ideal location to investigate the development and application of student communication skills, responding directly to the industry's demand for well-rounded hospitality graduates.

Data Gathering Tools

A survey questionnaire served as the primary data-gathering tool to assess soft and hard skills, particularly communication, among hospitality and tourism management students at Baguio Central University. The questionnaire was utilized for its efficiency and structure in systematically collecting measurable and statistically analyzable data (Creswell & Creswell, 2023).

The instrument comprised several objective-aligned sections. For quantification, it relied primarily on closed-ended questions using a 5point Likert scale, supplemented by a few open-ended questions for capturing qualitative insights.

The survey proved appropriate for efficiently collecting quantitative data from the entire population. Its advantages included being cost-effective, easy to administer, and ensuring anonymity for honest responses (Saunders et al., 2019). The structured Likert-scale responses facilitated robust statistical analysis, which was essential for precisely identifying skill gaps and necessary program improvements.

Reliability and Validity of the Research Instrument

To confirm the instrument's capacity to measure the target hard and soft skills, the researchers secured validity from three (3) field experts. The questionnaire yielded a high validity index of 4.25, implying that the research tool was highly appropriate for measuring what it intended.

Reliability was subsequently assessed through a pilot test involving twenty (30) college students external to the study's population. The resulting coefficient of indicated a highly reliable measure, confirming the items' internal consistency in assessing the skills.

Data Gathering Procedures

First, the questionnaire was carefully designed based on the study's objectives, covering essential aspects such as demographic information,

assessment of soft and hard skills, communication challenges, and recommendations for improvement.

To enhance its accuracy and relevance, the instrument underwent content validation by subject matter experts, including faculty members from the College of Hotel and Tourism Management at Baguio Central University and professionals in the hospitality industry. Their feedback helped refine the questions to ensure clarity and appropriateness.

Additionally, a pilot test was conducted with a small sample of hospitality students to identify potential issues in wording, structure, or comprehension. Adjustments were made based on the pilot test findings before the final administration of the questionnaire.

Treatment of Data

Descriptive statistics, such as the mean and standard deviation, were used to summarize the data. The mean and standard deviation determined the average response and the degree of variation among respondents, providing insights into how strongly students perceived the importance of communication skills in their hospitality training.

For Part I to III of the questionnaire which included the Level of Extent of Balancing Soft and Hard Skills in Hotel and Tourism

Management, the Challenges in Developing Strong Communication encountered by HTM students, and Strategies to Address Communication Challenges, a scale was developed with its corresponding verbal interpretation:

Numerical Value	Statistical Limits	Descriptive Equivalent	Symbol
5	4.21-5.00	Strongly Agree	SA
4	3.41-4.20	Agree	A
3	2.61-3.40	Neutral	N
2	1.81-2.60	Disagree	D
1	1.00-1.80	Strongly Disagree	SD

Ethical Considerations

The voluntary participation of all respondents was a fundamental principle upheld by the researchers. This was considered essential for fostering a collaborative research environment and ensuring the integrity of the collected data, as genuine cooperation resulted in more reliable responses.

Full informed consent was obtained from every participant. Before starting the survey, respondents were provided with a detailed consent form that clearly outlined the study's purpose, the nature of their involvement, the assurance of confidentiality, and their rights as a participant. This rigorous process ensured that all participation was entirely consensual and well-informed.

Participants were unequivocally informed of their unrestricted right to withdraw from the study at any point in the process, even after having started the questionnaire. This right was granted without the requirement of providing an explanation and without any fear of negative repercussions, penalty, or loss of benefits. The researchers maintained a strict policy of non-coercion, ensuring that no form of pressure was applied to influence participation or response, thereby preserving a free and harmonious relationship between the research team and the student body.

To guarantee the utmost confidentiality and the secure protection of the data, a meticulous protocol was implemented through the use of an online survey platform. Specifically, the data were collected directly via Google Forms, which immediately secured and centralized all respondent entries on a password-protected, cloud-based platform.

This method eliminated the risks associated with handling paper documents, such as loss, physical damage, or unauthorized access during manual collection. Furthermore, all gathered information was treated with strict confidentiality, with individual responses being immediately anonymized and used solely for the aggregated statistical analysis of the study. Access to the raw data was restricted to the core research team only, ensuring the students' privacy was effectively safeguarded from the moment of submission onward.

Results and Discussions

Level of Extent of Balancing Soft and Hard Skills in Hotel and Tourism Management

The findings overwhelmingly suggest that Hotel and Tourism Management (HTM) students perceive a successful integration of technical (hard) and interpersonal (soft) skills within their academic program. With weighted mean (WM) scores consistently ranging from 4.05 to 4.22 (interpreted as Agree), the results reflect a high level of student satisfaction regarding their program's effectiveness in developing industry-relevant competencies. This high agreement aligns with research emphasizing that student satisfaction with curriculum and commitment

significantly influences the overall hospitality program experience (Bae et al., 2022).

Table 1.1
Balancing Soft and Hard Skills in Hotel and Tourism Management

Indicators	W.M.	Descriptive Equivalent
1. The current hotel and tourism management curriculum effectively balances technical (hard) and interpersonal (soft) skills.	4.2	Agree
2. Practical training in my program helps me develop both technical expertise and communication skills.	4.4	Agree
3. My program places equal emphasis on operational knowledge and communication skills.	4.3	Agree
4. Faculty members integrate communication skill development into practical lessons and coursework.	4.4	Agree
5. Internships and on-the-job training (OJT) have improved my ability to communicate effectively in a professional environment.	4.2	Agree
6. The university provides sufficient training to develop my problem-solving and decision-making skills alongside communication.	4.4	Agree
	4.32	

A key highlight is the affirmation of experiential learning's effectiveness. The highest weighted mean (WM = 4.22) was recorded for the statement on practical training helping students develop both technical expertise and communication skills. This significant finding underscores the central role of hands-on activities in bridging theoretical knowledge and real-world application. As articulated by David A. Kolb, learning becomes most meaningful when students actively engage in practical experiences. This corroborates numerous studies demonstrating the critical effectiveness of experiential learning, which is deemed essential for skill development in hospitality education. High ratings were also given to the integration of communication skill development by faculty (WM = 4.21) and internship/on-the-job training experiences (WM = 4.19). These elements directly address the industry's demand for graduates with robust soft skills such as communication, adaptability, and teamwork, as vital complements to technical knowledge (Chen et al., 2022). Internships, in particular, serve as crucial experiential learning

activities that provide a realistic preview of the workplace, solidifying their role as primary components of effective HTM curricula (Soffi & Mohamad, 2021; Zopiatis et al., 2021). The focus on faculty-led communication and practical training demonstrates the program's responsiveness to the broader shift in higher hospitality education toward developing "human skills" like collaboration and critical thinking (Oskam et al., 2021).

These positive outcomes can be framed through the lens of Human Capital Theory (HCT), proposed by Gary Becker. The university's deliberate focus on cultivating a balance of technical expertise and interpersonal abilities represents a strategic investment in students' future employability. By strengthening communication, decision-making, and operational skills, students accumulate "human capital" that enhances their marketability and professional readiness. This application of HCT is consistent with contemporary research that underscores the importance of education and training in cultivating the necessary skills for the highly dynamic tourism and hospitality sector (Dženopoljac et al., 2023; Ivančić et al., 2023). Furthermore, the positive rating for training programs that enhance problem-solving and decision-making (WM = 4.09) reflects an emphasis on the higher-order skills critical for sustainable growth and innovation, as recognized by the World Tourism Organization.

Despite the overall strong agreement, the slightly lower mean on curriculum effectiveness in balancing hard and soft skills (WM = 4.05) is noteworthy. While still in the Agree range, this indicator suggests a potential area for curricular refinement and strategic enhancement. This finding supports the notion that hospitality education must continually evaluate specific competencies and student satisfaction to align educational content with evolving industry demands and improve program quality (Orpia & Cacabelos, 2023; Zegarra-Alva et al., 2024).

Challenges in Developing Strong Communication encountered by HTM Students

The results concerning the development of communication skills among Hotel and Tourism Management (HTM) students, reflect a mixed landscape of success and challenge, with weighted mean (WM) scores spanning from 3.08 to 4.47. The majority of items fall within the Neutral to Agree range, suggesting that while students acknowledge inherent difficulties in mastering communication for professional settings, positive factors, such as peer-to-peer learning, provide effective support. This aligns with industry realities post-pandemic, where communication proficiency is vital for customer service, conflict resolution, and leadership, yet remains a persistent challenge for graduates (Dzia-Uddin et al., 2024; Piol, 2023).

Table 2.1
Challenges in Developing Strong Communication Skills

Indicators	W.M.	Descriptive Equivalent
1. I find it challenging to communicate professionally with guests and clients.	4.2	Agree
2. Language barriers make it difficult to communicate effectively in hospitality settings.	4.4	Agree
3. I struggle with confidence when speaking in front of guests, faculty, or professionals.	4.3	Agree
4. Theoretical lessons in communication are not enough to prepare me for real-world guest interactions.	4.4	Agree
5. There are limited opportunities to practice interpersonal communication skills in my coursework.	4.2	Agree
6. The fast-paced nature of the hospitality industry makes it difficult to develop strong communication skills.	4.4	Agree
	4.32	

The single most positively rated item (WM = 4.47) was the statement on teamwork and collaboration activities helping improve communication skills, indicating strong student agreement. This result highlights the crucial role of experiential and participatory learning in enhancing students' interpersonal competence, a concept strongly advocated by David A. Kolb. Collaborative learning approaches provide immediate, practical contexts for communication, feedback, and skill refinement, which is highly effective in professional preparation. This finding is consistently supported by research that identifies team-based, project-based, and practical coursework as superior methods for strengthening communication and preparing students for the hospitality sector (Bahçelerli & Altınay, 2023). Moreover, collaborative projects, especially in a multicultural educational setting, are recognized for enhancing both cooperation and vital communication skills (Bahçelerli & Altınay, 2023; Jaiswal et al., 2024).

Conversely, the lowest weighted mean (WM = 3.08) was associated with the limited opportunities to practice interpersonal communication skills in coursework. This score, leaning towards Neutral, signals a significant perceived gap between the theoretical nature of instruction and the practical, real-world communication demands of the industry. This

lack of practical application in academic settings often leaves graduates inadequately prepared for the dynamic and volatile realities of the professional environment, where "human skills" like communication are paramount (Oskam et al., 2021; Qian et al., 2022). The finding that theoretical lessons in communication are "not enough to prepare students for real-world interactions" (WM = 3.51) further substantiates this deficiency.

This core challenge is best explained through Competency-Based Theory, proposed by David McClelland. This theory asserts that true competence is developed through demonstrated performance and application, not merely the acquisition of theoretical knowledge (McClelland, 1973). In the HTM context, communication skills including professional language, confidence, and situational appropriateness must be practiced in authentic, service-oriented simulations to build fluency and professionalism. The low score on practical opportunity (WM = 3.08) directly conflicts with the competency model, suggesting the program, while strong in group work, needs more structured, individualized, performance-based activities to achieve skill mastery (Zegarra-Alva et al., 2024).

Students reported moderate but notable challenges with specific communication hurdles, including language barriers (WM = 3.42), lack of confidence in public speaking (WM = 3.35), and difficulty communicating professionally with guests and clients (WM = 3.29).

These results reflect the highly international and customer-centric nature of the hospitality environment. Low foreign language proficiency, particularly in English, is a recognized and serious obstacle to successful practical training and client-facing roles (Alhumaidan & Alghamdi, 2023; Zainullina & Kedrova, 2020). Similarly, a lack of self-efficacy in speaking directly impacts a student's ability to engage effectively and professionally (Purnawati, 2021; Saragih et al., 2022). The need to communicate effectively and adaptively within the fast-paced nature of the industry (WM = 3.19) further explains why competency development, which includes intercultural communicative competence, must be a core curricular focus (Liu et al., 2022; Rahayu, 2020).

The results confirm that while the HTM program successfully leverages teamwork as a collaborative tool for communication development, a substantial gap exists in providing sufficient structured, hands-on, and performance-based opportunities for students to practice critical professional and linguistic skills. Supporting the CompetencyBased Theory, the findings strongly suggest that skills like communication cannot be mastered through classroom theory alone.

Strategies to Address Communication Challenges

The results reveal an exceptionally high consensus among HTM students regarding the importance of implementing targeted strategies to strengthen their communication skills. The weighted mean (WM) scores across all ten indicators range from 4.37 to 4.74 (Strongly Agree), reflecting students' recognition of communication as a core competency essential for providing quality hospitality services, particularly for navigating customer service, conflict resolution, and leadership in the post-pandemic environment (Dzia-Uddin et al., 2024).

The highest weighted mean (WM = 4.74) was recorded for the strategy of increasing industry exposure (e.g., internships, seminars, guest lectures). This finding powerfully validates the Experiential Learning Theory, emphasizing the student belief that professional communication skills are best cultivated through practice in authentic, real-world contexts. Internships and industry engagement are therefore seen not just as employment gateways, but as critical communication laboratories crucial for equipping students with necessary professional abilities (Soffi & Mohamad, 2021). Such practical exposure is proven to significantly enhance professional development and address the known gap between employer demand for soft skills and graduate proficiency (Dato, 2024; Piol, 2023; Saroken et al., 2025).

Table 3.1
Strategies to Address Communication Challenges

Indicators	W.M.	Descriptive Equivalent
1. Role-playing and simulation activities should be included in hospitality courses to enhance communication skills.	3.8	Agree
2. More industry exposure (e.g., internships, seminars, guest lectures) can help improve communication skills.	3.8	Agree
3. Soft skills training (e.g., interpersonal skills, emotional intelligence, active listening) should be reinforced in the curriculum.	3.7	Agree
4. Courses should incorporate more real-life case studies to help students apply communication strategies in practical settings.	4.1	Agree
5. The school should provide workshops focused on language proficiency and business communication.	3.6	Agree

6. Faculty should provide more interactive activities such as debates, presentations, and mock customer service scenarios.	3.6	Agree
7. Technology-driven learning tools (e.g., virtual role-playing, AI chat simulations) can help students practice communication skills.	3.7	Agree
8. There should be more collaboration between industry professionals and educators to enhance communication-focused training.	4.5	Strongly Agree
9. Continuous feedback and assessment on students' communication skills should be integrated into all hospitality courses.	3.7	Agree
10. The university should create specialized programs or certifications for improving communication skills in hotel and tourism management.	4.1	Agree
	4.32	

Closely rated strategies, such as soft skills training (WM = 4.71) and role-playing or simulation activities (WM = 4.60), further reinforce the demand for practical, skills-based learning. This collective high agreement aligns with the industry's need for service providers who possess strong communication and interpersonal skills to deliver consistent quality service (Tanković et al., 2021). The emphasis on soft skills (e.g., active listening, emotional intelligence) is critical for effectively communicating with culturally diverse guests, a cornerstone of service excellence.

The students' high valuation of practical communication strategies directly relates to the Service Quality Theory (Parasuraman, Zeithaml, & Berry, 1985). In the hospitality sector, communication is not merely a transaction but a critical determinant of service quality, satisfaction, and loyalty. Effective communication acts as the primary "touchpoint" that bridges customer expectations with service delivery. Therefore, strategies like role-playing and soft skills training are essential for improving communicative competence, enhancing language usage, and mastering the nuances of verbal and non-verbal communication required to shape positive guest perceptions (Ishak & Aziz, 2022; Korochentseva et al., 2020; Tipmontree & Asama, 2021).

Students also highly rated structured, institutionally-driven initiatives: language and business communication workshops (WM = 4.66), industry-educator collaboration (WM = 4.67), and faculty-led interactive activities (WM = 4.65).

These results highlight a strong student demand for systematic and measurable communication training. This is particularly vital given the necessity of clear, empathetic, and culturally sensitive communication in a global hospitality context. The emphasis on language workshops underscores the critical role of English proficiency for service excellence and efficient work performance (Alhumaidan & Alghamdi, 2023; Na & Lee, 2021; Rahayu, 2020). Furthermore, the high support for specialized programs or certifications (WM = 4.55) and continuous feedback and assessment (WM = 4.60) reflects a desire for structured pathways to skill mastery, ensuring demonstrable competence before graduation (Soffi & Mohamad, 2021).

While all strategies were strongly supported, the lowest weighted mean (WM = 4.37) was recorded for technology-driven learning tools (e.g., virtual role-playing and AI chat simulations). Although this score still signifies strong agreement, its relative position suggests students may have less familiarity with these digital tools, or perhaps view them as a complement rather than a replacement for human-led, face-to-face interaction.

Nonetheless, the integration of technology remains strategically vital in modern hospitality education. The rise of AI-powered guest engagement and digital service channels makes exposure to digital communication tools necessary. Emerging evidence supports the effectiveness of AI-enhanced communication training for providing individualized feedback, particularly through platforms like virtual reality (Chalupa & Chadt, 2021; Liaw et al., 2023; Meinlschmidt et al., 2025). The broader transformations brought by AI in the industry, from operational efficiencies to personalized guest experiences, demand that technology-driven training be increasingly leveraged to prepare graduates for a digitally evolving workplace (Ismail et al., 2024; Sirivadhanawaravachara, 2025).

The findings strongly demonstrate that HTM students advocate for a curriculum that prioritizes experiential, practical, and systematic communication training. The overwhelming support for industry exposure, soft skills development, and collaborative learning aligns perfectly with the principles of Experiential Learning and the crucial role of communication identified by Service Quality Theory. To fully meet industry expectations and cultivate graduates capable of delivering exceptional service, HTM programs must commit to integrating these student-supported, high-impact strategies including the adoption of emerging digital tools, and ensure a process of continuous evaluation and adaptation.

Conclusions and Recommendations

Conclusions

HTM students affirm a strong program commitment to human capital development, perceiving a successful integration of hard and soft skills primarily driven by experiential learning, notably through highlyrated practical training and faculty-led communication enhancement. This outcome suggests the curriculum effectively equips graduates for industry roles, aligning with the principles of competency-based professional readiness.

Despite the success of collaborative efforts, students report a critical gap in developing applied communication competence, indicating moderate challenges with language barriers and confidence due to a perceived lack of structured, real-world practice opportunities within standard coursework. This highlights a disconnect between the program's perceived value and the demonstration required by Competency-Based Theory.

Students overwhelmingly advocate for performance-driven strategies as the path to communication mastery. This strong consensus validates the Service Quality Theory, underscoring that practical, measurable skill development is essential for service excellence and graduate employability.

Recommendations

The university must strategically sustain and deepen its investment in experiential learning by continuously aligning the curriculum with evolving industry standards, particularly by increasing practical applications that further enhance the critical balance between technical expertise and interpersonal proficiency. HTM programs should immediately implement mandatory, performance-based communication activities, such as robust role-playing simulations, specialized language workshops, and individualized feedback sessions, to directly address student confidence and language barriers identified as moderate challenges.

The institution should formalize a comprehensive communication competency framework by expanding industry partnerships for internships, institutionalizing required soft skills modules, and integrating technology-driven training tools to ensure the consistent production of service-quality-ready graduates.

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ASSESSING CARBON FOOTPRINTS: STRATEGIES FOR MEASUREMENT, REDUCTION AND SUSTAINABILITY

An Institutional Research
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Baguio City

Lorelie S. Malit, RChE
Hazel A. Castillo, LPT

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Abstract

This study conducted a comprehensive carbon footprint assessment of Baguio Central University (BCU) to establish a baseline for measuring greenhouse gas (GHG) emissions and to guide the development of sustainable institutional strategies. Employing a quantitative research design, data were collected from structured surveys, institutional records, and concessionaire interviews. The study measured emissions generated from major operational sources, including energy consumption, transportation, solid waste, water use, paper and printing activities, and food services. Findings revealed that the university's total emissions in 2024 amounted to approximately 1,506 metric tons of carbon dioxide equivalent (CO₂e), showing a significant increase compared to 2023 figures due to expanded data coverage and increased campus activity. Among the different categories, transportation emerged as the dominant contributor, representing about 81 percent of the total emissions, followed by electricity consumption, solid waste generation, and food-related emissions.

Although BCU's overall contribution to the Philippines' national emissions remains relatively small, the university's role in modeling sustainability and influencing behavioral change within the academic community is highly significant. The findings underscore the necessity of implementing a Carbon Management Plan that includes adopting renewable energy systems such as solar power, promoting low-carbon transportation through carpooling and electric vehicles, enhancing waste management and recycling programs, and reducing paper usage through digitalization. Integrating sustainability education and awareness campaigns across all departments can strengthen environmental consciousness and institutional accountability.

This study highlights the potential of higher education institutions to serve as leaders in climate action by translating research insights into tangible environmental policies and practices. The results provide a foundation for future monitoring, evaluation, and continuous improvement of BCU's sustainability initiatives, aligning the university with national and global commitments to reduce GHG emissions and advance the United Nations' Sustainable Development Goals (SDGs).

Keywords: carbon footprint, greenhouse gas emissions, sustainability, transportation, renewable energy

Introduction

Schools have played an important role in helping people cope with climate and environmental challenges through international initiatives such as the Green Deal and Climate Action Plan Security, which focus on climate neutrality. Schools, as establishments dedicated to teaching, are crucial in enabling students to take part in steady development of care and should be role models for themselves, students and staff, and the community (Adhikari & Pokhrel, 2025).

As an institution, we can reduce our carbon footprints by changing simple things in our daily activities. Schools play an important role in achieving climate protection goals, because they lay the foundation of knowledge for a responsible next generation. Therefore, schools as institutions have a special role model function. Enabling schools to become aware of their own carbon footprint (CF) is an important prerequisite for being able to tap the substantial CO₂ reduction potential (Owenger et al. 2021).

Assessing Carbon Footprints is the most effective process of measuring and reporting the amount of greenhouse gas emissions from human activities (Climate change Secretariat, 2016) initiating to reducing of carbon footprint as strategy that leads to sustainable development of an Institution. This is to respond to anthropogenic impacts on the global climate system that we are facing now. Assessing emissions using a carbon footprint is an established method. It plays an important role in raising awareness about (reducing) GHG emissions and in developing measures to protect the climate (Wagner, 2021). Thus, this study focuses on the carbon footprint assessment of Baguio Central University as strategy for sustainable institution.

Sustainability

The term “carbon emissions” describes how human activity releases greenhouse gases, such as carbon dioxide (CO₂), methane (CH₄) into the atmosphere. These emissions are mainly generated from the combustion of fossil fuels, including coal, petroleum and natural gases for power generation, transportation, industrial processes, and residential use (Adhikari & Pokhrel, 2025).

The term “carbon footprint” is defined by the IPCC Guidelines (2006) as “a representation of the effect on climate in terms of the total amount of greenhouse gases (GHG) that are produced, measured in units of Carbon Dioxide equivalent (CO₂e) as a result of the activities of an organization”.

In addition, carbon footprint are the total greenhouse gas (GHG) emissions caused directly and indirectly by an entity, typically measured in carbon dioxide equivalents (CO₂e) such as carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, expressed in equivalent tons of Carbon Dioxide. It is associated with the activities of an individual, community, an organization, a process, a product or service, or an event, among other things (Badamasi, 2023) and (Muthu, 2024).

To calculate the carbon footprint of Baguio Central University, the researchers will use the international standards for calculating the carbon footprint (Vall, 2021) which is the greenhouse gas (GHG) protocol (2004) and the IPCC guidelines (2006).

Theoretical Framework and Conceptual Framework

Each year, human activities release more Carbon Dioxide into the atmosphere that natural processes can remove, causing the amount of Carbon Dioxide in the atmosphere to increase. The global average Carbon Dioxide set a record high in 2023: 419.3 parts per million (Lindsey, 2024).

The country's total greenhouse gas emissions reached 204.33 teragrams of Carbon Dioxide equivalent in 2020 (PSA, 2024) which is the widest cause of climate change happens worldwide. This is the reason why calculations of carbon footprint have been recently in very high demand internationally (Scrucca, 2021).

Specifically, from 1990-2021, the total tons in electricity and heat are from 10.83 million tons to 79.96 million tons, in transport is from 14.06 million tons to 32.63 million tons and in Waste is from 7.36 million tons to 14.47 million tons updated November 21, 2024 Climate Watch (2024). In addressing this global issue Higher Education Institutions can initially lead the way by reducing greenhouse gas emissions through daily practices (Amaal, 2023) and able to influence the stakeholders.

Furthermore, this complies to the vision of 2030 sustainable development goals of United Nations which some of its highlights is to provide a world where we reaffirm our commitments regarding the human right to safe drinking water and sanitation and where there is improved hygiene; and where food is sufficient, safe, affordable and nutritious and to provide a world where human habitats are safe, resilient, and sustainable and where there is universal access to affordable, reliable, and sustainable energy (Department of Economic and Social Affairs, 2015).

The study aims to address several key Sustainable Development Goals (SDGs) set by the United Nations. These include Goal 3, which seeks to ensure healthy lives and promote well-being for all at all ages, and Goal 6, which focuses on ensuring the availability and sustainable

management of water and sanitation for all. It also supports Goal 7, which emphasizes access to affordable, reliable, sustainable, and modern energy for all. In addition, the study aligns with Goal 11, aiming to make cities and human settlements inclusive, safe, resilient, and sustainable, as well as Goal 12, which promotes sustainable consumption and production patterns. Furthermore, it contributes to Goal 13 by taking urgent action to combat climate change and its impacts. The study also upholds Goal 14, which seeks to conserve and sustainably use oceans, seas, and marine resources for sustainable development, and Goal 15, which focuses on protecting, restoring, and promoting the sustainable use of terrestrial ecosystems, managing forests responsibly, combating desertification, and halting biodiversity loss.

The carbon footprint is a valuable tool for measuring the contribution to climate change by an individual, organizations, products, and services, and more. For example, by computing the industrial carbon footprint, an industry can better understand its major sources of emissions and find ways to minimize them (Badamasi, 2023).

Greenhouse gases, such as methane, carbon dioxide, and nitrous oxide are emitted in large quantities during the combustion process of fossil fuel. It is also expected that the emissions of these gases will increase with time, due to the rapid rate of civil and industrial growth and thus result to weather changes, severe health problems, sea-level rise, changes in the ecosystem, etc. which threaten human beings (Olabi, 2022).

Statement of the Problem

This study aims to comprehensively assess the carbon footprint of Baguio Central University as a baseline toward developing and implementing effective strategies for greenhouse gas emissions reduction and long-term sustainability.

The specific objectives of this research are to:

Quantify the total greenhouse gas emissions produced by Baguio Central University across various operational areas. This will include the following sources:

Energy Consumption

Transportation

Waste Audit

Paper and Printing Usage

Food and Cafeteria Emissions

Assess the self-reported measures to reduce greenhouse gas emissions.

Significance of the Study

This study aims to emphasize the potential to provide a comprehensive understanding of carbon footprint assessment, focusing on effective strategies for measurement, reduction, and long-term sustainability. By evaluating current practices and identifying key areas for improvement, this research will guide the university in developing data-driven environmental policies and sustainable initiatives. Serving as a baseline study, it will establish essential benchmarks for monitoring future carbon emissions and measuring progress toward sustainability goals. Ultimately, this research contributes to environmental stewardship, institutional accountability, and the promotion of a culture of sustainability within the university and the broader academic community.

Methodology

Research Design

This study adopted purely quantitative methodology to assess the carbon footprint at Baguio Central University. Part of data collection on the distance travelled was conducted through a structured survey administered to a stratified random sampling, comprising both employees, concessionaire personnel, and students of the university. Some data were collected from the Self-Monitoring Reports submitted to the Department of Environment and Natural Resources, and from the annual report of the Office of Physical Plant & Facilities.

The concessionaire personnel were interviewed on food consumption data. This method allowed for an objective, data-driven evaluation, pinpointing key areas for enhancement while ensuring the results accurately reflected the academic community's experiences.

Locale and Population of the Study

This research took place at Baguio Central University with a total of 3406 employees and students during the Academic Year 2024–2025. The sample size was determined using Slovin's formula to ensure statistical reliability and representativeness of the university's overall student population. This approach allowed for a well-balanced selection, incorporating students from various academic programs and levels. The majority of respondents were students and diverse sample reflects the university's dynamic academic landscape and provides a broad spectrum of perspective. By including students at different points in their academic journey—from first-year enrollees to those approaching graduation—the

study aimed to capture authentic insights from individuals who in somewhat affects the carbon footprint emissions of the university.

Table 1 shows the distribution of the total population of Baguio Central University for the A.Y. 2024-2025.

Table 1.
Demographic Profile of the Respondents

Demographic Profile	Frequency count	Percentage
Role in the university		
Student	3223	94.63%
Employee	183	5.37%

Data Gathering Tools

For this study, data collection (as described on Appendix C) on the distance travelled by the students and employees was carried out using a structured survey questionnaire. The researchers designed the questionnaire to examine multiple aspects that includes the modes of transportation, frequency of travel, and distance covered. To ensure broad participation, the researchers personally distributed the survey across different department at Baguio Central University and conducted an online survey through Google Form. This method facilitated the collection of measurable data, capturing diverse student perspectives, which were then analyzed to identify patterns and highlight areas of concern.

Data (as described on Appendix C) on solid waste generated came from the Self-Monitoring Report that were periodically submitted to the Department of Environment and Natural Resources (DENR), electric consumption were from the electric bill from Baguio Electric Company (BENECO), and water consumption were collected and gathered from the billing statement of Baguio Water District (BWD) across all campuses of Baguio Central University.

Data (as described on Appendix C) on paper and printing usage were collected and gathered from the annual report of the Property Custodian on the summary of expenses of the Office of the Physical Plant & Facilities.

Data (as described on Appendix C) on the cafeteria and food consumption were gathered from interviewing the concessionaire personnel on the amount (in kilograms) of their daily food purchases.

Treatment of Data

The treatment of data in this research involves systematic collection, organization, analysis, and interpretation of quantitative and qualitative information related to carbon footprint assessment. Data gathered from institutional records, surveys, and observational methods to determine sources of carbon emissions within the university. Collected data will be categorized according to emission scopes—direct, indirect, and other related activities. Computations (Appendix D) on carbon footprint emissions were used to quantify emission levels, while comparative and analyses identify key patterns and reduction opportunities. All data were validated, securely stored, and ethically handled to ensure accuracy, reliability, and confidentiality.

Ethical Considerations

This study was conducted in strict accordance with ethical guidelines. Before beginning data collection, approval was obtained from the Vice President of the Academic Affairs. Participants were fully informed about the purpose of the study and their involvement was completely voluntary. Informed consent was obtained from every participant, and they were assured that all responses would remain confidential and anonymous. No personal identifying information was collected, and all data were securely stored and accessible only to the research team. Participants were also informed that they could withdraw from the study at any time without any negative repercussions. These ethical measures were implemented to ensure that the rights and dignity of all participants were respected throughout the research process.

Results and Discussions

The results of the university’s carbon footprint assessment, as summarized in Table 2, reveal a comprehensive picture of greenhouse gas emissions across key operational sectors for 2023 and 2024. Major sources identified include electricity, water consumption, solid waste, transportation, paper and printing usage, and food services. In 2023, emissions from electricity, water, and solid waste totaled approximately 173,531.9 kg CO₂e, while in 2024, with the inclusion of transportation, paper, and food categories, total emissions rose to about 1,506,396 kg CO₂e (roughly 1,506 metric tons). This significant increase reflects not only an expanded scope of accounting but also actual growth in energy and resource use, corresponding with the university’s post-pandemic recovery and operational expansion.

Transportation emerged as the dominant contributor, accounting for approximately 81 percent of total emissions or about 1.22 million kg CO₂e in 2024. This trend mirrors national patterns, where transportation remains one of the largest sources of energy-related emissions in the Philippines. The finding underscores the importance of addressing commuting behaviors and institutional mobility systems. Developing low-carbon transportation strategies—such as campus shuttle programs, carpooling initiatives, electric vehicle adoption, and the promotion of public transport—could substantially reduce emissions in this sector. Electricity consumption ranked as the second-largest contributor, producing 127,151.60 kg CO₂e in 2023 and 152,665.95 kg CO₂e in 2024, marking an increase of about 20 percent. This rise likely stems from higher campus activity, longer facility operating hours, and growing student enrollment. Given that the Philippine energy grid remains heavily dependent on coal, with emission factors between 0.67 and 0.85 kg CO₂ per kWh, transitioning toward renewable energy sources and enhancing efficiency are essential. Measures such as replacing conventional lighting with LEDs, retrofitting appliances, and installing solar photovoltaic systems can yield both emission reductions and cost savings.

The solid waste sector also showed a notable rise, increasing from 44,743.20 kg CO₂e in 2023 to 86,084.40 kg CO₂e in 2024—nearly a twofold increase. This could be linked to higher consumption of packaged goods and food waste, as well as insufficient segregation practices. Since methane emissions from unmanaged landfills are highly potent, strengthening waste diversion through composting, recycling, and strict segregation can have immediate mitigation benefits. Similarly, emissions from food and cafeteria operations reached around 40,369 kg CO₂e in 2024, or about 3 percent of total emissions. These arise primarily from food preparation, supply chains, and the carbon-intensive production of meat and dairy. Promoting plant-based menus, sourcing ingredients locally, and minimizing food waste could significantly lessen this footprint.

Although the university's total emissions represent only about 0.001 percent of the Philippines' national total of 149 million metric tons of CO₂e (2023), the institution plays an outsized role in advancing climate action. As an academic entity, it is uniquely positioned to lead by example through education, research, and operational sustainability. The results provide a quantitative baseline for developing a comprehensive Carbon Management Plan, guiding energy conservation policies, renewable energy investments, fleet electrification, and waste reduction programs. Integrating these findings into curriculum design and campus-wide awareness initiatives can transform the university into a living laboratory for climate solutions.

Paper and printing activities produced a comparatively small share of emissions, totaling 4,909.92 kg CO₂e in 2024 (0.3 percent). Nevertheless, this category presents a strong opportunity for behavioral change through digitalization, reduced printing, and the use of recycled materials. Water-related emissions, though minimal at 1,637.10 kg CO₂e in 2023 and 1,667.71 kg CO₂e in 2024, still warrant attention since water supply and treatment processes are energy-intensive. Improved water efficiency aligns not only with sustainability but also with financial prudence. The analysis suggests that increased academic activity and administrative documentation in 2024—possibly linked to the resumption of in-person classes and expanded enrollment—may have contributed to the observed emission levels. Additionally, the continued use of single-sided printing and limited adoption of digital documentation systems further exacerbate paper waste. Short-term mitigation strategies include enforcing double-sided printing policies, prioritizing digital submission of assignments, and shifting administrative communications to electronic formats. Encouraging departments to adopt centralized printing systems with tracking features can also minimize unnecessary duplication of materials. Meanwhile, long-term solutions involve institutionalizing a “paperless policy” across the university, transitioning to electronic learning management systems, and sourcing eco-labeled or 100-percent recycled paper for essential printing needs.

In the broader context, the university’s carbon footprint assessment contributes directly to achieving several Sustainable Development Goals (SDGs), including Goal 7 (Affordable and Clean Energy), Goal 11 (Sustainable Cities and Communities), Goal 12 (Responsible Consumption and Production), and Goal 13 (Climate Action). By adopting practical mitigation strategies, the institution can support the Philippines’ Nationally Determined Contribution (NDC) commitment to reduce greenhouse gas emissions by up to 75 percent by 2030. Moreover, the university’s transparent reporting can inspire nearby institutions, businesses, and local governments to undertake similar assessments and adopt emission-reduction measures, creating a multiplier effect that strengthens community resilience.

The university’s 2024 carbon footprint of approximately 1,506 metric tons CO₂e—dominated by transportation and electricity use—highlights critical areas for intervention. While the overall share of national emissions remains small, the university’s actions carry substantial educational and societal influence. By prioritizing energy efficiency, renewable energy integration, low-carbon mobility, and sustainable consumption practices, the university can position itself as a model of environmental stewardship. Such efforts not only align with global and national climate goals but also foster a culture of sustainability that extends beyond campus boundaries.

To ensure practical implementation, both short-term and long-term actions are necessary. Short-term actions include conducting energy audits, enforcing efficient lighting systems, improving waste segregation, reducing single-use plastics, and promoting carpooling or shuttle services to reduce vehicle emissions. These can be implemented within one to two years and yield immediate benefits in cost savings and awareness. Medium- to long-term strategies should focus on investing in renewable energy installations such as solar panels, transitioning to electric or hybrid university vehicles, upgrading building infrastructure for better energy performance, and developing a comprehensive sustainability curriculum. These actions require greater financial and technical investment but promise long-term reductions in emissions and enhanced institutional resilience. Establishing partnerships with government agencies, private sectors, and local communities can further expand the reach and impact of these initiatives.

It is important to acknowledge the limitations of data collection and estimation methods used in this assessment. Some data relied on secondary sources and standard emission factors rather than direct measurement, which may introduce uncertainties in total CO₂e values. For instance, the use of national grid emission factors does not account for seasonal variations in power generation mixes, and estimates for transportation emissions were based on assumed commuting distances and average fuel consumption rather than real-time data. Similarly, waste generation estimates were derived from periodic sampling and may not fully capture fluctuations throughout the academic year. Despite these limitations, the results provide a credible and useful baseline for monitoring progress and informing policy decisions. Future studies could refine accuracy by adopting automated energy monitoring systems, conducting detailed transport surveys, and integrating life-cycle analysis for key activities.

Table 2.
Summary of computed Annual Carbon Dioxide Emissions:

Sources		kg CO ₂ e
Electric Consumption	2023	127 151.60
	2024	152 665.95
Water Consumption	2023	1 637.10
	2024	1 667.71
Solid waste	2023	44 743.20
	2024	86 084.40
Transportation		1 220 699.33
Paper & Printing Usage		4 909.92
Food & Cafeteria		40 369.00

Conclusion and Recommendations

Conclusions

The results of the university's carbon footprint assessment demonstrate that the university activities contribute measurably to greenhouse gas emissions, primarily through energy use and transportation. The total carbon dioxide equivalent (CO₂e) emissions for 2024 were estimated at approximately 1,506 metric tons, representing a significant increase from 2023, largely due to higher electricity consumption, greater waste generation, and the inclusion of transportation and other operational sources in the computation. Among all categories, transportation emerged as the largest contributor, accounting for more than 80 percent of total emissions, followed by electricity consumption, solid waste, food services, paper use, and water consumption. This distribution clearly reflects the energy-intensive and mobility-dependent nature of university operations.

Although the university's share of the Philippines' total national emissions is negligible, its actions hold considerable importance as a model for sustainability in education and local governance. The findings still needs an urgent need to implement comprehensive carbon management strategies, including the adoption of renewable energy, energy-efficient technologies, sustainable transportation systems, and effective solid-waste reduction programs. By addressing these key areas, the university can significantly reduce its environmental impact while improving operational efficiency and reducing costs.

The assessment shows the potential of the higher education institutions to serve as catalysts for climate action. Through research, teaching, and community outreach, the university can promote climate awareness, influence behavioral change, and encourage environmentally responsible practices among students, staff, and surrounding communities. Establishing a culture of sustainability within the campus not only contributes to achieving the country's Nationally Determined Contributions (NDCs) under the Paris Agreement but also enhances institutional reputation and community resilience.

The study provides a vital baseline for future monitoring and policymaking, emphasizing that carbon footprint reduction is both an environmental and social responsibility. By translating these findings into concrete actions—such as renewable energy adoption, efficient transport management, waste diversion, and digitalization—the university can lead by example and inspire collective efforts toward a low-carbon and sustainable future for the community and the nation.

Recommendations

Based on the findings of the carbon footprint assessment, several actions are recommended to reduce the university's greenhouse gas emissions and promote long-term sustainability. Foremost, the university should develop and implement a comprehensive Carbon Management Plan that sets measurable targets for emission reduction, establishes monitoring systems, and integrates sustainability across academic and operational activities. Given that transportation is the largest source of emissions, initiatives such as the promotion of carpooling, shuttle services, walking, biking, and the use of electric vehicles should be prioritized. Coordinating with local government units to improve access to public transport routes can further enhance mobility efficiency and reduce the university's overall carbon footprint.

To address emissions from electricity consumption, the university is encouraged to adopt renewable energy solutions such as solar photovoltaic systems. Simultaneously, energy efficiency measures—such as retrofitting LED lighting, using inverter-type appliances, and conducting regular energy audits—should be institutionalized to optimize consumption and minimize costs. For solid waste management, the university should formulate waste segregation policies, implement waste management programs.

Paper and printing usage can be reduced through digitalization of documents, double-sided printing policies, and increased use of recycled paper. Awareness campaigns should be launched to encourage students and staff to embrace sustainable practices in daily activities, including waste reduction and resource conservation. The university can also explore initiatives to reduce food-related emissions, such as offering plant-based meal options, sourcing ingredients locally, and managing food waste more efficiently.

Continuous education, research, and community engagement must be at the heart of the university's sustainability strategy. By integrating environmental topics into the curriculum, supporting student-led green projects, and collaborating with nearby communities, the university can expand its impact beyond campus boundaries.

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EVALUATING PHYSICAL FACILITIES: ASSESSING SATISFACTION, AND ACCESSIBILITY

An Institutional Research
Presented to the Research and Development Center
BAGUIO CENTRAL UNIVERSITY
Baguio City

Lorelie S. Malit, RChE
Onofre F. Rillera, RCE, MSCE

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Abstract

This institutional research aimed to evaluate the physical facilities of Baguio Central University (BCU) in terms of user satisfaction and accessibility. Recognizing that campus infrastructure plays a crucial role in promoting effective learning, safety, and inclusivity, the study sought to determine how well the university's physical environment meets the needs and expectations of its academic community. Guided by Herzberg's Two-Factor Theory, Expectancy-Disconfirmation Theory, the SERVQUAL Model, and Maslow's Hierarchy of Needs, the study provided a theoretical and conceptual foundation for understanding the relationship between accessibility, satisfaction, and overall institutional performance.

A quantitative research design was utilized, employing a structured survey distributed to a stratified random sample of 1,562 respondents composed primarily of students, along with faculty and staff, across BCU's Bonifacio, Magsaysay, and Burgos campuses. The research instrument, validated by experts and verified for internal consistency (Cronbach's $\alpha = 0.97$), measured respondents' perceptions of accessibility and satisfaction using a five-point Likert scale. Descriptive statistics—frequency, percentage, and weighted mean—were applied in data analysis to assess user experiences and identify areas for improvement.

Findings revealed that respondents generally perceived BCU's physical facilities as accessible, with libraries (WM = 3.37), classrooms (WM = 3.21), and medical and dental clinics (WM = 3.17) rated as most accessible. Conversely, parking spaces (WM = 2.54), sports facilities (WM = 2.78), and laboratories (WM = 2.87) were considered only fairly accessible, highlighting uneven accessibility across facility types. The high variability (SD = 1.60–1.80) among responses indicated differing experiences among users, particularly those with mobility challenges. This underscores the need for consistent facility standards and the adoption of universal design principles to ensure inclusivity.

In terms of satisfaction, respondents expressed overall positive perceptions of the university's physical environment, with ratings ranging from "Satisfied" to "Much Satisfied." Facilities such as the library (WM = 3.55), medical and dental clinic (WM = 3.54), and offices/staff rooms (WM = 3.49) received the highest satisfaction scores, reflecting effective maintenance, cleanliness, and safety. However, lower satisfaction ratings were observed for internet connectivity (WM = 2.64) and campus amenities (WM = 2.98), indicating the need for modernization in technological infrastructure and facility enhancements. Despite moderate variability (SD = 1.21–1.38), the findings suggest generally consistent satisfaction levels among respondents.

The study concludes that BCU has achieved a commendable level of accessibility and satisfaction regarding its physical facilities, particularly in academic and administrative spaces. However, disparities in accessibility and technological deficiencies call for continuous improvement. It recommends enhancing accessibility in underperforming areas—such as parking and sports facilities—upgrading digital infrastructure, and implementing regular facility audits. Furthermore, involving stakeholders in participatory planning and feedback mechanisms is crucial to ensuring that development aligns with user needs, inclusivity standards, and institutional sustainability goals. By addressing these areas, BCU can further promote a safe, inclusive, and efficient learning environment that supports academic excellence and community well-being.

Keywords: accessibility, physical facilities, satisfaction, infrastructure, inclusive education.

Introduction

The physical facilities in higher education institutions played a significant role in the academic lives of students as well as the staff that provides administrative services in the institution. These physical facilities influence the learning environment and thus can affect the overall well-being of the students and the whole academic community (Yangambi, 2023). Studies show that these physical facilities have an impact on student engagement, student satisfaction, and student retention. Thus, every educational institution aims to assess and evaluate the quality, the adequacy, and the accessibility of their physical facilities. The evaluation must include the accessibility of the buildings, the adequacy of classrooms and laboratories, the availability of recreational and sports facilities, common spaces, and the overall condition of the infrastructure (Barri, 2020).

Physical facilities dictate the quality of education an institution can offer, as well as playing an important role in achieving a quality academic life for students. Although these physical facilities are not only limited for academic purposes but also for extracurricular activities, co-curricular activities, administrative services, and the overall well-being of the students, staff, and faculty. The assessment and evaluation of these physical facilities become the trend in many educational institutions to meet the expanding demands of the student body and to enhance their services technologically (Riva, 2020).

This evaluation process is not limited to ensuring the institutions' compliance with safety codes and regulations; it aims to measure how

well the physical facilities meet the needs of the diverse academic community of an educational institution. According to studies, student satisfaction can be determined to measure how well the physical facilities of an institution meet the needs and expectations of the academic community. How comfortable the classrooms, offices, laboratories, the availability of open spaces and common spaces, the ease of navigation inside the campus grounds, and the maintenance of libraries, cafeterias, and sports facilities encompasses those physical facilities that can be related to student engagement and student retention. Students tend to be engaged more if they feel that their environment can support their academic and personal growth (Claveria, 2021).

Accessibility is a factor in the evaluation of physical facilities in an educational institution. It is not only limited to compliance with regulatory standards but also the practical ease of using the facilities by the students, staff, and those individuals with special needs. The design, position, or location of these facilities can affect the experience and inclusivity of all of their users (Zurainan, 2021). In evaluating these facilities, student feedback is very important. Regular evaluation is recommended from the frequent users; hence, benchmarking to other institutions can help identify the areas for improvement (Norton, 2023).

Challenges are always in parallel with improvement. One of the challenges that institutions encounter when evaluating their physical facilities is the rapid pace of technological advancement. Classrooms and laboratories that were traditionally designed to accommodate different student activities should now contain smartboards, projectors, and other learning devices for an effective learning and teaching process. Libraries have to upgrade from merely using physical books to e-books subscriptions and subscriptions to other digital resources that facilitate teaching-learning and research-based curricula.

Educational institutions face different challenges in upgrading and maintaining their physical facilities. One major challenge is the financial cost associated with enhancing and developing their physical facilities. Many educational institutions have a tight budget when it comes to allocation with their physical facilities; therefore, it is very critical that educational institutions balance their investments in their physical facilities with other priorities to ensure that funds are allocated effectively (Reyes, 2024).

Another challenge that educational institutions face is environmental sustainability. Concerns with our environment become a priority as development arises. This led to the imposition on sustainable campus design that includes the use of eco-friendly materials and construction of energy-efficient buildings, and the promotion of green

spaces and biodiversity (Selznick, 2021). Health and safety of the academic community will also have to be taken into account, which includes compliance with fire safety regulations, adequate lighting, and ensuring their physical facilities are free from hazards.

Theoretical Framework/Conceptual Framework

Herzberg's Two-factor Theory. This theoretical model, also known as the Motivation-Hygiene Theory, differentiates motivators and hygiene factors. Hygiene factors are considered as extrinsic factors that is related to the environment, while motivators are consider as intrinsic factors that encourages student engagement and satisfaction (Kurt, 2022). This describes that the absence of a factor that can lead to dissatisfaction, this certain factor is not enough, if exist alone, to guarantee satisfaction. Herzberg's Theory emphasizes addressing both complimentary factors to be able to evaluate satisfaction.

Expectancy-Disconfirmation Theory. This theory known as EDT is widely used to explain customer satisfaction and can also be applied to an educational context. This theory describes that satisfaction is the result of the comparison between expectations and actual experiences (Shukla, 2023).

SERVQUAL Model This model was developed by Zeithaml, Parasuraman, and Berry in the 1980s. This model evaluates service quality by measuring the gap between student expectations and student perceptions of the actual service rendered. In assessing the effectiveness and accessibility in the context of student services, this model created five dimensions such as (1) the tangibles, physical facilities, equipment, and appearance of service personnel; (2) the reliability, ability to perform the services dependably and accurately; (3) the responsiveness, willingness to help the student promptly; (4) the assurance, ability of the staff to convey trust and confidence; and (5) the empathy, caring and individualized attention to students.

Maslow's Hierarchy of Needs This provides the psychological foundation for understanding how student services can contribute to student satisfaction and success. The basic needs must be met first before the student can focus on achieving academic success. Maslow's Hierarchy describes the needs as (1) physiological, basic needs such as housing, food, and healthcare; (2) safety, giving students a sense of security; (3) belongingness and love, programs that foster peer support and sense of community; (4) esteem needs, programs on career services, academic advising, opportunities for personal growth; and (5) self-actualization, services that help students to realize their full potential.

The conceptual framework for evaluating physical facilities in educational institutions focuses on understanding the relation between the physical environment, its accessibility and student satisfaction. This study provides a systematized way to understand the relationships between the accessibility of physical facilities (independent variables) and its impact on student satisfaction (dependent variables). With this study, our institutions can better understand the strengths and weaknesses of the physical facilities available and make improvements to ensure that the administrative services are both effective and accessible.

Statement of the Problem

The main objective of this study will be to assess and evaluate respondents' satisfaction and the accessibility of the physical facilities available. Specifically, it will seek to address the following concerns:

How easy is it for the respondents to access the physical facilities available in Baguio Central University?

How satisfied are the respondents with the physical facilities of Baguio Central University?

Significance of the Study

This baseline research is significant because it provides valuable insights into the current state of physical facilities in terms of user satisfaction and accessibility. As an initial study, it establishes essential data and benchmarks that can guide future assessments, improvements, and comparative analyses. The findings will help identify areas that require enhancement to ensure that facilities meet the needs and expectations of their users. The results will be beneficial to various stakeholders: administrators can use the data as a basis for planning, upgrading, and maintaining physical infrastructures to improve comfort, functionality, and accessibility for all users, including persons with disabilities; the academic and management council can utilize the findings to inform policy decisions regarding standards for facility design, accessibility compliance, and resource allocation, ensuring that infrastructure development aligns with inclusive and sustainable practices; and students, employees, and other stakeholders will benefit from improved productivity, safety, and overall satisfaction as accessibility barriers are identified and addressed. Future researchers can use this study as a reference point, as it contributes to existing literature on facilities management, accessibility, and user satisfaction, offering valuable insights for subsequent studies in similar contexts. This baseline research emphasizes the importance of user-centered and inclusive facility design, promoting environments that are safe, comfortable, and accessible for everyone.

Methodology

Research Design

This study adopted purely quantitative methodology to assess the satisfaction of the students and employees on the physical facilities of Baguio Central University and the accessibility of Baguio Central University. Data collection was conducted through a structured survey administered to a stratified random sampling. Utilizing a five-point Likert scale, the survey measured various aspects such as the accessibility of the physical facilities of the university and the level of satisfaction of the university’s physical facilities. This method allowed for an objective, data-driven evaluation of the physical facilities, pinpointing key areas for enhancement while ensuring the results accurately.

Locale and Population of the Study

This research took place at Baguio Central University and involved a total of 1562 respondents enrolled and employed during the Academic Year 2024–2025. The sample size was determined using Slovin's formula to ensure statistical reliability and representativeness of the university’s overall student population. This approach allowed for a well-balanced selection, incorporating students from various academic programs and levels. The sample reflects the university’s dynamic academic landscape and provides a broad spectrum of perspectives on the physical facilities of the university. By including students at different points in their academic journey—from first-year enrollees to those approaching graduation—the study aimed to capture authentic insights from individuals who regularly engage with the institution’s physical facilities.

Demographic Profile of the Respondents

Table 1 presents the demographic profile of respondents from Baguio Central University (BCU), offering a comprehensive overview of their distribution across campuses, roles, duration of stay, college affiliation, and physical mobility status. The data reveal that most respondents are from the Magsaysay Campus, accounting for 51% of the total participants, followed by the Bonifacio Campus with 38%, and Burgos Campus with 11%. This indicates that the Magsaysay Campus houses the majority of the university population. In terms of role, an overwhelming 94% of respondents are students, while faculty members comprise 5%. Both administrative and non-teaching staff each represent only 0.5% of the respondents, suggesting that the survey was predominantly student-oriented. Regarding length of stay, 35% of students have been enrolled for one to two years, 30% for three to four

years, 28% for less than a year, and 7% for more than four years, implying that the majority of participants are relatively new or mid-level students.

When classified by college affiliation, the College of Criminal Justice Education has the highest representation with 23.7%, followed by the College of Engineering (20.9%), and Senior High School (10.9%). Other colleges such as the College of Hospitality and Tourism Management, College of Business Administration, College of Teacher Education and Liberal Arts, Graduate School, and College of Nursing and School of Midwifery account for smaller proportions ranging from 7.6% to 9.4%. Junior High School respondents make up only 1.4%, highlighting that tertiary-level students dominate the sample. Finally, with respect to physical disabilities affecting mobility, 96% reported having none, while 4% identified having some form of disability. Among those with mobility issues, vision impairment was the most common at 57%, followed by limited walking ability at 23.8%, hearing impairment at 14.4%, and wheelchair use at 4.8%. This distribution underscores the university’s predominantly able-bodied population, with minimal yet notable representation of individuals with physical disabilities.

Table 1.
Demographic Profile of the Respondents

Demographic Profile	Frequency count	Percentage
BCU Campus evaluated		
Bonifacio	594	38%
Magsaysay	797	51%
Burgos	172	11%
Role at the institution		
Student	1468	94%
Faculty	78	5%
Administrative Staff	8	0.5%
Non-teaching Staff	8	0.5%
How long have you been a student at Baguio Central University?		
Less than 1 year	411	28%
1–2 years	514	35%
3–4 years	440	30%
More than 4 years	103	7%
I belong to this college...		
College of Business Administration	128	8.7%
College of Criminal Justice Education	348	23.7%
College of Engineering	307	20.9%
College of Hospitality and Tourism Management	138	9.4%
College of Nursing and School of Midwifery	112	7.6%

College of Teacher Education and Liberal Arts	129	8.8%
Graduate School	126	8.6%
Junior High School	21	1.4%
Senior High School	160	10.9%
Do you have any physical disability that affects your mobility?		
Yes	62	4%
No	1500	96%
Type of mobility issue...		
Wheelchair user	3	4.8%
Limited walking ability	15	23.8%
Vision impairment	35	57.0%
Hearing impairment	9	14.4%
Others	0	0

Data Gathering Tools

For this study, data collection was carried out using a structured survey questionnaire. The researchers designed the questionnaire to examine multiple aspects of the physical facilities, including accessibility, and overall satisfaction. A five-point Likert scale was utilized, allowing respondents to express their experiences across a range of options—for instance, from "Very Much Accessible" to "Least Accessible" when rating accessibility, or from "Least Satisfied" to "Very Much Satisfied" in terms of quality of the physical facilities. To ensure broad participation, the researchers personally distributed the survey across different colleges at Baguio Central University and made use of Google Form as an online platform for data gathering. These methods facilitated the collection of measurable data, capturing diverse student perspectives, which were then analyzed to identify patterns and highlight areas for improvement.

Reliability and Validity of the Research Instrument

To ensure the survey instrument yielded reliable and accurate results, the researchers implemented several measures to establish its validity and consistency. Before the final administration, a pilot test was conducted with 20 students who closely matched the target population. The feedback gathered from this preliminary test allowed the researchers to refine unclear wording and address any ambiguities, enhancing clarity and ease of response.

To assess reliability, Cronbach's alpha was used to determine the internal consistency of the questionnaire. This statistical method helped evaluate whether the survey items effectively measured the intended concepts. The computed value of 0.97 indicated a high level of consistency, confirming that responses were stable across similar questions.

Validity was examined in two key ways. First, content validity was ensured through a thorough evaluation by experts in physical facilities and higher education research. Additionally, the overall content validity index (I-CVI) of the instrument was calculated at 0.98, indicating that the test comprehensively measured the intended construct. Their insights helped confirm that the questionnaire was both representative of the key concepts and aligned with the study's objectives.

Treatment of Data

The survey responses were collected and carefully reviewed to ensure completeness and consistency. Any responses that were incomplete or showed inconsistencies were excluded to preserve the integrity of the analysis. The valid data were systematically coded and entered into Excel for further analysis. Descriptive statistics were used to summarize the results, including the computation of frequency distributions, percentages, and weighted means for each survey item. The weighted means for each factor were examined to assess the overall level of respondent satisfaction. Organized statistical tables were utilized to identify patterns and highlight key areas in need of improvement.

Ethical Considerations

This study was carried out in full compliance with established ethical standards. Prior to data collection, authorization was secured from the Vice President for Academic Affairs. Participants were thoroughly informed about the study's purpose, and their participation was entirely voluntary. Informed consent was obtained from each participant, with assurances that all responses would remain confidential and anonymous. No personally identifying information was collected, and all data were securely stored, accessible only to the research team. Participants were also advised that they could withdraw from the study at any point without any negative consequences. These ethical safeguards were implemented to protect the rights and uphold the dignity of all participants throughout the research process.

Results and Discussions

The data presented in Table 2, the overall results indicate that respondents generally perceive the institution's physical facilities as accessible, with a few exceptions rated as fairly accessible. The weighted means (WM) range from 2.54 to 3.37, showing varying degrees of accessibility across different facility types. The highest rating was given to libraries (WM = 3.37), followed by classrooms (WM = 3.21) and medical and dental clinics (WM = 3.17), all interpreted as accessible. These findings imply that core academic and support facilities are relatively easy to use and well-maintained. Conversely, parking spaces (WM = 2.54), sports facilities (WM = 2.78), and laboratories (WM = 2.87) were rated as only fairly accessible, suggesting challenges in mobility, availability, or design. The standard deviation (SD) values, which range from 1.60 to 1.80, are notably high across all indicators. This high variability signifies that there are substantial differences in how respondents perceive accessibility—some find the facilities easily accessible, while others encounter significant difficulties. Such dispersion indicates inconsistent accessibility conditions across the campus, possibly influenced by variations in facility location, maintenance, or users' physical capabilities. In essence, while the general assessment leans toward accessibility, the wide range of perceptions reveals that accessibility is not uniformly experienced by all members of the academic community.

From a trend analysis perspective, a consistent pattern emerges across the data. Facilities directly related to academic activities, such as libraries, classrooms, and offices, scored higher in accessibility, suggesting that institutional priorities have been directed toward spaces that support teaching and learning. In contrast, non-academic or recreational facilities such as parking spaces, sports facilities, and laboratories scored lower, revealing possible neglect in improving auxiliary infrastructure that enhances the overall campus experience. The persistent high standard deviation across all items underscores that despite the general accessibility of these facilities, user experiences vary widely. This variability might be attributed to differences in individual needs (e.g., those with physical disabilities), inconsistent infrastructure across campuses, or fluctuating maintenance levels. The trend highlights the need for a more balanced and inclusive infrastructure strategy that gives equal attention to both academic and non-academic spaces, ensuring that all members of the institution can access and benefit from campus resources equitably.

The implications of these findings are critical for institutional planning, policy-making, and the promotion of inclusivity. The results suggest that while the institution has made commendable progress in

making its facilities accessible, more targeted interventions are needed to address areas with lower accessibility ratings and high variability. The high standard deviation values emphasize the importance of conducting further accessibility audits to pinpoint specific problem areas and understand the root causes of inconsistent user experiences. Improvements in parking spaces, sports facilities, and laboratories could include adding ramps, improving pathways, increasing space allocation, and ensuring compliance with universal design principles. Moreover, the institution should engage in participatory planning, seeking feedback from students, faculty, and staff—especially individuals with disabilities—to ensure that future infrastructure developments address diverse needs. By taking these steps, the institution can foster a more inclusive and supportive environment, enhance satisfaction and participation, and demonstrate a strong commitment to equity and accessibility for all campus users.

Table 2.
Accessibility of Physical Facilities

INDICATORS		INTERPRETATION
1. Restrooms/Comfort Rooms	WM: 3.12 SD: 1.67	Accessible High Variability
2. Classrooms	WM: 3.21 SD: 1.60	Accessible High Variability
3. Libraries	WM: 3.37 SD: 1.66	Accessible High Variability
4. Cafeterias/Dining Areas	WM: 3.09 SD: 1.65	Accessible High Variability
5. Parking Spaces	WM: 2.54 SD: 1.80	Fairly Accessible High Variability
6. Sports Facilities	WM: 2.78 SD: 1.67	Fairly Accessible High Variability
7. Medical & Dental Clinics	WM: 3.17 SD: 1.71	Accessible High Variability
8. Student Lounge	WM: 3.05 SD: 1.78	Accessible High Variability
9. Faculty Lounge	WM: 3.04 SD: 1.75	Accessible High Variability
10. Auditorium/Function Hall	WM: 3.13 SD: 1.73	Accessible High Variability

11. Laboratories	WM:2.87 SD: 1.74	Fairly Accessible High Variability
12. Offices/Staff Rooms	WM: 3.04 SD: 1.71	Accessible High Variability

Note. WM = Weighted Mean; SD = Standard Deviation

The data presented in Table 3, the respondents generally expressed satisfaction with the institution’s physical facilities, as reflected by the weighted mean (WM) values ranging from 2.64 to 3.55, all falling within the “Satisfied” to “Much Satisfied” range. The highest level of satisfaction was recorded for the library (WM = 3.55), medical and dental clinic (WM = 3.54), auditorium/function hall (WM = 3.50), and offices/staff rooms (WM = 3.49), all interpreted as “Much Satisfied.” These results indicate that respondents find these facilities clean, well-maintained, and conducive to their needs. Conversely, the lowest satisfaction rating was recorded for internet connectivity (WM = 2.64) and campus amenities (WM = 2.98), suggesting that respondents perceive limitations in technological infrastructure and general amenities, which are crucial for a functional and comfortable learning environment. Most indicators fall between 3.00 and 3.40, implying a consistent level of satisfaction across various areas such as cleanliness, maintenance, air quality, temperature, and lighting. The standard deviation (SD) values range from 1.21 to 1.38, all categorized as moderate variability. This suggests that while most respondents shared similar perceptions, there were still some differences in individual experiences. The moderate SD signifies that although satisfaction is relatively stable across respondents, variability in ratings may be attributed to differences in facility conditions, user expectations, or the frequency with which respondents access particular facilities. In summary, the overall data imply that the institution effectively maintains a satisfactory physical environment, although certain aspects—particularly technological and amenity-related areas—require further enhancement.

The trend analysis of the results reveals that respondents are more satisfied with facilities directly linked to academic and administrative functions, such as libraries, offices, and auditoriums, compared to auxiliary services and technological features. This pattern suggests that institutional priorities have been focused primarily on maintaining essential physical structures that support teaching, learning, and administration. Facilities related to comfort and modern functionality, including Wi-Fi connectivity, seating amenities, and technological equipment, received relatively lower satisfaction scores. The uniformity in moderate variability across all indicators further highlights that, while the overall satisfaction is positive, there is a consistent level of variation in how respondents experience these facilities. This may reflect differences in location quality, access, maintenance consistency, or time

of use. The presence of such variability also indicates that while the institution maintains a generally acceptable level of physical upkeep, there is no uniform excellence across all facility types. Notably, respondents seem to place high value on cleanliness, safety, and maintenance, which received some of the most favorable evaluations, underscoring the institution’s success in upholding basic facility standards.

The implications of these findings are significant for institutional management, facilities planning, and student satisfaction strategies. The results suggest that while the institution has achieved a commendable level of satisfaction among its users, the areas with lower ratings—such as internet connectivity and campus amenities like medical clinic at Burgos campus, parking spaces on all th campuses, —require immediate attention to improve user experience and operational efficiency. The moderate standard deviation values indicate that user perceptions are relatively consistent, but not without divergence, emphasizing the importance of continuous quality monitoring and equitable facility management across all areas of the campus. Administrators may consider investing in upgrading technological infrastructure, enhancing Wi-Fi coverage, and expanding amenities that contribute to convenience and comfort. Additionally, the data underscore the importance of sustaining cleanliness, safety, and maintenance practices that respondents already view positively. Engaging stakeholders in feedback-driven facility improvement initiatives could help ensure that the evolving needs of both students and staff are met. Ultimately, strengthening the physical environment not only enhances satisfaction but also supports productivity, learning engagement, and institutional reputation.

Table 3.
Satisfaction on Physical Facilities

INDICATORS		INTERPRETATION
1. The classrooms are clean and well-maintained.	WM: 3.34 SD: 1.21	Satisfied Moderate Variability
2. The restrooms are clean and stocked with necessary supplies.	WM: 3.10 SD: 1.29	Satisfied Moderate Variability
3. The library is clean and well-maintained.	WM: 3.55 SD: 1.26	Much Satisfied Moderate Variability
4. The cafeterias/dining areas are clean and well-maintained.	WM: 3.34 SD: 1.27	Satisfied Moderate Variability
5. The parking area is clean and well-maintained.	WM: 3.16 SD: 1.35	Satisfied Moderate Variability
6. The gymnasium is clean	WM: 3.39	Satisfied

and well-maintained.	SD: 1.26	Moderate Variability
7. The student lounge is clean and well-maintained.	WM: 3.32 SD: 1.28	Satisfied Moderate Variability
8. The faculty lounge is clean and well-maintained.	WM: 3.47 SD: 1.29	Much Satisfied Moderate Variability
9. The auditorium/function hall is clean and well-maintained.	WM: 3.50 SD: 1.26	Much Satisfied Moderate Variability
10. The laboratories are clean and stocked with necessary supplies.	WM: 3.27 SD: 1.31	Satisfied Moderate Variability
11. The medical and dental clinic is clean and well-maintained.	WM: 3.54 SD: 1.27	Much Satisfied Moderate Variability
12. The offices/staff rooms are clean and well-maintained.	WM: 3.49 SD: 1.25	Much Satisfied Moderate Variability
13. I feel safe and secure in our building.	WM: 3.43 SD: 1.24	Much Satisfied Moderate Variability
14. The campus/building has adequate security measures in place.	WM: 3.38 SD: 1.25	Satisfied Moderate Variability
15. The campus/building is easily accessible to all.	WM: 3.37 SD: 1.26	Satisfied Moderate Variability
16. Signage within the campus/building is clear and helpful.	WM: 3.36 SD: 1.28	Satisfied Moderate Variability
17. The campus/building offers adequate amenities (e.g., seating, Wi-Fi).	WM: 2.98 SD: 1.38	Satisfied Moderate Variability
18. The amenities are well-maintained and functional.	WM: 3.21 SD: 1.26	Satisfied Moderate Variability
19. The equipment provided is up-to-date and in good condition.	WM: 3.16 SD: 1.26	Satisfied Moderate Variability
20. The furniture is comfortable and meets my needs.	WM: 3.13 SD: 1.28	Satisfied Moderate Variability
21. The temperature within the classroom is comfortable.	WM: 3.17 SD: 1.29	Satisfied Moderate Variability
22. The temperature within the offices/staff rooms are comfortable.	WM: 3.29 SD: 1.26	Satisfied Moderate Variability
23. The temperature within the laboratories are comfortable.	WM: 3.18 SD: 1.30	Satisfied Moderate Variability
24. The temperature within the library is comfortable.	WM: 3.35 SD: 1.27	Satisfied Moderate Variability
25. The temperature within the cafeteria is comfortable.	WM: 3.22 SD: 1.25	Satisfied Moderate Variability

26. The air quality in the classroom is good.	WM: 3.18 SD: 1.26	Satisfied Moderate Variability
27. The air quality in the laboratories are good.	WM: 3.19 SD: 1.26	Satisfied Moderate Variability
28. The air quality in the library is good.	WM: 3.34 SD: 1.23	Satisfied Moderate Variability
29. The air quality in the offices/staff rooms are good.	WM: 3.30 SD: 1.24	Satisfied Moderate Variability
30. The air quality in the cafeteria is good.	WM: 3.19 SD: 1.27	Satisfied Moderate Variability
31. The lighting in classrooms are conducive to the activities being performed.	WM: 3.31 SD: 1.26	Satisfied Moderate Variability
32. The lighting in the laboratories are conducive to the activities being performed.	WM: 3.27 SD: 1.29	Satisfied Moderate Variability
33. The lighting in the library is conducive to the activities being performed.	WM: 3.39 SD: 1.26	Satisfied Moderate Variability
34. The lighting in the offices/staff rooms are conducive to the activities being performed.	WM: 3.40 SD: 1.25	Satisfied Moderate Variability
35. The lighting in the cafeteria is conducive to the activities being performed.	WM: 3.33 SD: 1.26	Satisfied Moderate Variability
36. The facility is promptly repaired when issues arise.	WM: 3.19 SD: 1.28	Satisfied Moderate Variability
37. The facility's maintenance schedule is adequate.	WM: 3.25 SD: 1.26	Satisfied Moderate Variability
38. The facility provides adequate parking space.	WM: 3.04 SD: 1.36	Satisfied Moderate Variability
39. The facility is easily accessible via public transportation.	WM: 3.32 SD: 1.28	Satisfied Moderate Variability
40. The staff is helpful and courteous.	WM: 3.39 SD: 1.26	Satisfied Moderate Variability
41. The staff promptly addresses any concerns or issues I have.	WM: 3.32 SD: 1.27	Satisfied Moderate Variability
42. The facility has reliable internet connectivity.	WM: 2.64 SD: 1.34	Satisfied Moderate Variability
43. The facility is equipped with modern technology that meets my needs.	WM: 3.04 SD: 1.32	Satisfied Moderate Variability
44. The layout of the facility is logical and user-friendly.	WM: 3.09 SD: 1.28	Satisfied Moderate Variability

45. There is sufficient space for activities and movement.	WM: 3.16 SD: 1.28	Satisfied Moderate Variability
46. The facility implements environmentally sustainable practices.	WM: 3.20 SD: 1.26	Satisfied Moderate Variability
47. Recycling and waste management are effectively managed within the facility.	WM: 3.19 SD: 1.29	Satisfied Moderate Variability
48. Hand sanitizing stations are readily available throughout the facility.	WM: 3.00 SD: 1.34	Satisfied Moderate Variability
49. The facility follows proper hygiene and sanitation protocols.	WM: 3.16 SD: 1.29	Satisfied Moderate Variability
50. Drinking water is available within the facility.	WM: 3.01 SD: 1.34	Satisfied Moderate Variability
51. The facility is well-prepared for emergencies (e.g., fire drills, emergency exits).	WM: 3.21 SD: 1.28	Satisfied Moderate Variability
52. Emergency procedures are clearly communicated and accessible.	WM: 3.21 SD: 1.27	Satisfied Moderate Variability
53. The facility is aesthetically pleasing.	WM: 3.16 SD: 1.28	Satisfied Moderate Variability
54. The decor and design of the facility are modern and appealing.	WM: 3.14 SD: 1.28	Satisfied Moderate Variability
55. The facility provides adequate personal space to avoid overcrowding.	WM: 3.17 SD: 1.28	Satisfied Moderate Variability
56. I can comfortably maintain my privacy within the facility.	WM: 3.18 SD: 1.26	Satisfied Moderate Variability
57. The facility's location is convenient for my needs.	WM: 3.22 SD: 1.27	Satisfied Moderate Variability
58. The hours of operation are convenient for me.	WM: 3.28 SD: 1.27	Satisfied Moderate Variability
59. Overall, I am satisfied with the physical facilities.	WM: 3.17 SD: 1.27	Satisfied Moderate Variability
60. I would recommend this facility to others based on my experience.	WM: 3.20 SD: 1.27	Satisfied Moderate Variability

Note. WM = Weighted Mean; SD = Standard Deviation

Conclusions and Recommendations

Conclusions

Based on the findings, it can be concluded that the university has successfully provided a generally accessible and satisfactory physical environment for its academic community. Respondents expressed that most of the physical facilities are accessible and meet their needs, reflecting the institution's commitment to maintaining a conducive environment for learning and work. Facilities such as classrooms, libraries, offices, and medical and dental clinics were perceived as easy to access and well-maintained, indicating that the institution prioritizes areas that directly support academic and administrative functions. Taking notes that some facilities—such as parking areas, sports facilities, and laboratories—were viewed as only fairly accessible, suggesting that these areas may require improvement in terms of space allocation, layout, or design to ensure equal access for all users.

The results also suggest that while the institution's physical environment is generally satisfactory, there are differences in how respondents experience accessibility and satisfaction. Variability in responses points to the existence of unequal access or differing levels of comfort across various facility types. This finding underscores the importance of continuous evaluation of physical infrastructure to ensure that accessibility and satisfaction are experienced uniformly by all members of the academic community. The results reveal that institutional priorities have largely focused on the upkeep of academic and administrative spaces, which are critical to day-to-day operations. However, the relative neglect of auxiliary and recreational facilities suggests a gap in achieving a balanced development strategy. These gaps indicate the need for a more comprehensive approach to campus planning that integrates both academic and support facilities, ensuring that all areas contribute equally to the overall quality of campus life.

The results highlight that the institution has achieved notable success in maintaining a safe, clean, and functional physical environment, but continuous improvement remains essential. Enhancing the accessibility of key facilities and upgrading technological infrastructure will not only address current limitations but also strengthen inclusivity and efficiency across the campus. Improving areas such as sports facilities, laboratories, and parking spaces will promote a more holistic sense of accessibility and satisfaction for all users. These findings call for strategic investment in both physical and technological resources, as well as regular facility audits to monitor progress and identify emerging needs. By doing so, the university can ensure that its physical environment

remains adaptive, equitable, and supportive of academic excellence, student well-being, and overall institutional growth.

Recommendations

Several recommendations are proposed to further improve the university's infrastructure, accessibility, and overall user satisfaction. The university should focus on enhancing the accessibility of facilities that were identified as less convenient or difficult to access, particularly parking spaces, laboratories, and sports facilities. This can be achieved by redesigning pathways, providing adequate signage, and ensuring that all areas comply with accessibility standards, especially for individuals with disabilities. Conducting regular accessibility audits would also help identify and address specific structural or environmental barriers that may impede movement and convenience across the campus.

It is recommended that the university upgrade and modernize its technological infrastructure to address areas that received lower satisfaction ratings, particularly internet connectivity and other technology-related amenities. Strengthening Wi-Fi coverage, increasing bandwidth, and upgrading digital equipment in classrooms and laboratories would significantly improve the teaching, learning, and administrative experience. Modernizing technological resources not only supports academic functions but also enhances overall operational efficiency and communication within the institution.

Another key recommendation is to improve campus amenities and support facilities. Enhancing lounges, cafeterias, seating areas, and recreational spaces can provide students, faculty, and staff with a more comfortable and engaging environment. These improvements contribute to well-being, promote social interaction, and create a more pleasant campus atmosphere. Maintaining consistent cleanliness, safety, and hygiene should remain a top priority. Regular maintenance schedules, proper waste management, and updated safety protocols—such as emergency exits, fire drills, and sanitation practices—will ensure that users continue to experience a safe and healthy environment.

It is strongly recommended that the university institutionalize a system of continuous monitoring and evaluation of its physical facilities. A data-driven assessment framework should be established to track accessibility, maintenance, and satisfaction levels regularly. This approach will enable the administration to allocate resources efficiently, address emerging concerns promptly, and ensure that facilities remain aligned with institutional goals and user expectations. By implementing these recommendations, the university can strengthen its commitment to providing a safe, inclusive, and modern physical environment that

supports learning, productivity, and well-being. These actions will not only enhance user satisfaction but also foster a stronger sense of community and pride among all members of the academic community.

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Prepared and Edited by:

Michael T. Sebullen, CRS, LPT, PhD
Director for Research

Proofread by:

Jocelyn B. Ang, PhD
CHTM Research Coordinator

Cherrie Mae M. Manuel, CFMP, LPT, DBA
CBA Research Coordinator

Edna P. Culbongan, LPT, EdD
Graduate School Research Coordinator

Engr. Criselda S. Felix, PhD
COE Research Coordinator

Engr. Lorelie S. Malit
Non-Teaching Research Coordinator

Hilario A. Sanglay, RN, MAN
CONSM Research Coordinator

Aiza Bheal M. Kitani, LPT, MAEngl
CTELA Research Coordinator

Rowena B. Gagno, RCrim, MSCJ
CCJE Research Coordinator

Conformed by:

Elma D. Donaal, EdD
Vice President for Academic Affairs

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#18 Bonifacio St. ABCR Barangay,
Baguio City Philippines 2600

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