INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY: APPLIED BUSINESS AND EDUCATION RESEARCH

2025, Vol. 6, No. 12, 6026 – 6042
http://dx.doi.org/10.11594/ijmaber.06.12.15

Research Article

From Graduation to Employment: Tracking the Career Paths of BSEd Physical Science Alumni at Isabela State University

Jonathan Lord R. Aquino*

College of Education, Isabela State University, Cauayan City, Isabela, Philippines, 3305 Romblon State University

Article history:
Submission 31 August 2025
Revised 31 November 2025
Accepted 23 December 2025

**Corresponding author:*
E-mail:
jonathanlord.r.aquino@isu.edu.ph

ABSTRACT

This study explored the career trajectories and employability of 41 Bachelor of Secondary Education (BSEd) Physical Science graduates from Isabela State University-Cauayan Campus, focusing on those who completed their studies between 2017 and 2019. Using a descriptive survey approach, data were gathered from 41 graduates through a structured questionnaire. The results indicate that most graduates were young, single women from rural, low-income backgrounds in Isabela. Despite these socioeconomic hurdles, a notable 78.04% successfully entered the teaching field by passing the licensure exam. Graduates reported high satisfaction with the knowledge and skills gained from the program, especially in areas such as accommodating diverse learners and engaging in reflective teaching practices. However, there is a need to enhance basic skills such as literacy, communication, and critical thinking. The choice of educational institution and program was largely influenced by cost-effectiveness and employment opportunities in the field. Employment statistics show that while most graduates found jobs related to their degrees, challenges remained concerning job security, income, and alignment with career aspirations. Only a small fraction pursued further education for career progression purposes. This study underscores the necessity for ongoing curriculum development, enhanced career support services, targeted socioeconomic programs, and regular alumni feedback to boost graduate readiness and adaptability in the changing job market. These findings provide valuable insights for educational stakeholders to align programs with community needs and broader industry trends, thereby improving the success of BSEd Physical Science graduates in teaching and related fields.

Keywords: *Alumni, BSEd Physical Science, Career Paths, Employability, Graduates*

How to cite:
Aquino, J. L. R. (2025). From Graduation to Employment: Tracking the Career Paths of BSEd Physical Science Alumni at Isabela State University. *International Journal of Multidisciplinary: Applied Business and Education Research*. *6*(12), 6026 – 6042. doi: 10.11594/ijmaber.06.12.15

Background

Career planning is essential for recent graduates moving from academic life to the workforce. It encompasses a series of strategic choices that significantly impact career trajectories and overall job satisfaction. The importance of career planning lies in its ability to ease employment challenges by promoting self-awareness, honing the necessary skills, and aligning career aspirations with personal values and market needs. Effective career planning boosts confidence in career decisions and helps establish a professional identity, contributing to career satisfaction and success (Chen, 2024; Oliveira et al. 2019). Additionally, it helps manage uncertainty and lessen job-related anxiety by offering a structured method for exploring and securing employment opportunities (Chen & Zeng, 2021). For educational institutions, integrating career planning into their curricula can greatly improve graduates' preparedness and adaptability in navigating complex job markets, ultimately enhancing employability and long-term career success (Lu and Wei, 2023). This study examined the employability of graduates of the Bachelor of Secondary Education program with a focus on science. It aims to illuminate the career paths graduates take after completing their studies and the factors that influence their career decisions and achievements in the field. By analyzing employment rates, job satisfaction, skill alignment with market needs, and employers' perceptions of educational preparation, this study seeks to provide a comprehensive understanding of these educators' professional journeys. The employability of individuals with bachelor's degrees in secondary education (BSE) is a major concern in the educational sector. The success of a bachelor's program in secondary education is often evaluated based on how well graduates secure and thrive in teaching and education-related positions. Recently, the employment landscape has experienced significant changes due to shifts in the educational system, technological advancements, and evolving teacher expectations. Employability is a primary focus of the Department for Education and Employment (DEE), now known as the Department for Education and Skills (DfES), as noted by Hillage and Pollard (2020). The government's policy to improve graduate employability is part of a broader strategy to expand the skills base in the U.K., as highlighted by Coopers and Lybrand (2020). This focus on employability aligns with the human capital theory related to innovation and economic performance. Increasing the stock of human capital is crucial for economic growth, driving the government's agenda to address the 'productivity shortfall.' Employers prefer candidates with the necessary educational qualifications and job-specific skills. A degree and relevant experience are often cited by recruiters in job advertisements as requirements for a position. Graduate employability has been identified as a critical issue in the interaction between higher education and job markets (Clarke, 2018).

In the context of the global economy, graduate employability has become an unavoidable issue (Misra and Khurana, 2021). The effectiveness of curricular programs plays a significant role in influencing students' employability. Employability encompasses achieving the desired graduate outcomes in response to a changing global environment (Smith et al., 2018). Additionally, the importance of enhancing student employability skills has increased in the Philippines, where numerous colleges and universities produce thousands of teacher graduates annually. Consequently, the employability of teacher graduates has become a key factor in assessing the success of any teacher education institution, as required by the Philippine Constitution (Leyaley, 2016). This study explored the career paths of Bachelor of Secondary Education (BSEd) Physical Science graduates from the Isabela State University-Cauayan Campus between 2017 and 2019. The BSEd Physical Science program is designed to prepare students to teach physical sciences at the secondary level, offering a curriculum that includes core education courses, specialized physical science subjects, teaching methodologies, and practical experience. Graduates are equipped with comprehensive knowledge of physical science concepts, pedagogical skills, an understanding of curriculum development and assessment, and the ability to incorporate technology into science instruction. This research examines employment rates in both teaching and non-teaching roles,

the duration taken to secure initial employment, job alignment with educational background, career satisfaction, opportunities for professional growth, and challenges encountered during the transition from graduation to employment. This study offers valuable insights to various educational stakeholders.

Research Problems

This study sought to determine the career paths and employability of Bachelor of Secondary Education (BSEd) graduates majoring in Physical Science at Isabela State University–Cauayan Campus from 2017 to 2019. Specifically, it aims to address the following questions:

- What is the demographic profile of the graduates in terms of age, sex, marital status, province of origin, parents' occupation, annual family income, and household size?
- What is the educational background of the graduates with respect to highest educational attainment, year graduated, honors or awards received, and eligibility status?
- What factors influenced the graduates' choice of educational institution, including reasons for enrollment and sources of information?
- How were the graduates financially supported during their studies in terms of tuition, miscellaneous fees, and residence while studying?
- What knowledge and skills did the graduates acquire from the BSEd Physical Science program, and how effective was the program in preparing them for employment?
- What is the status of the graduates in terms of further studies pursued after graduation?
- What is the current employment status of the graduates with respect to job sector, employment type, position, income, and job relevance to their degree program?
- How did the graduates transition to employment in terms of their first job, reasons for employment decisions, waiting time before employment, and plans for career mobility or overseas opportunities?

Methodology

Research Design.

This research utilized a descriptive survey design to map the career trajectories of Bachelor of Secondary Education (BSEd) graduates with a specialization in Physical Science from Isabela State University–Cauayan Campus, covering the years 2017 to 2019. The descriptive survey was considered suitable because it enabled the researchers to systematically collect, summarize, and interpret information about the graduates' profiles, educational backgrounds, financial situations, employment statuses, and career changes. This method was justified because it accurately reflected the actual circumstances of the respondents, offering a clear depiction of their employability and the relevance of their academic training to their chosen careers.

Participants and Sampling.

This study focused on individuals who graduated from the BSEd Physical Science program between 2017 and 2019. The alumni office provided the names and contact information of these graduates, and additional help from peers and faculty members was enlisted to reach the participants. A purposive sampling technique was employed to select only those who had completed their studies during the specified timeframe. Of all the graduates, 41 individuals successfully participated in the study, offering a sufficient sample size to derive meaningful insights into the alumni group.

Data Collection.

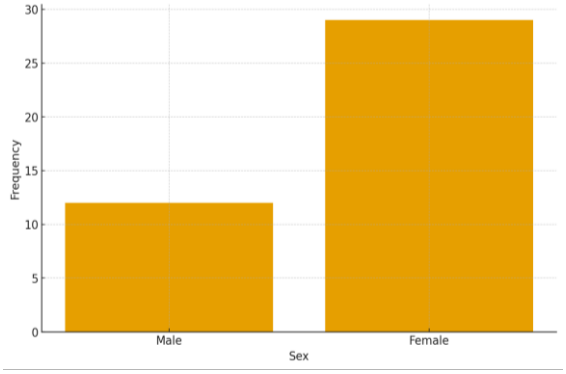
Information was collected using a structured questionnaire modeled after the validated tracer study tool from the Commission on Higher Education (CHED) and the Isabela State University. This instrument addressed essential areas such as demographic details, educational history, institutional selection, financial aid, skills gained, further education, employment information and job transitions. To enhance response rates and reach graduates spread across different locations, surveys were distributed both in person and through online channels, specifically via email and Facebook.

Data Analysis.

The data gathered were examined using descriptive statistics, focusing on frequencies and percentages, to illustrate the distribution of graduates' traits and employment results. These statistical tools were used to succinctly summarize categorical variables, including demographic details, levels of education, job sectors, employment status, and career advancement. The findings were analyzed in the context of the existing literature and aligned with the study objectives.

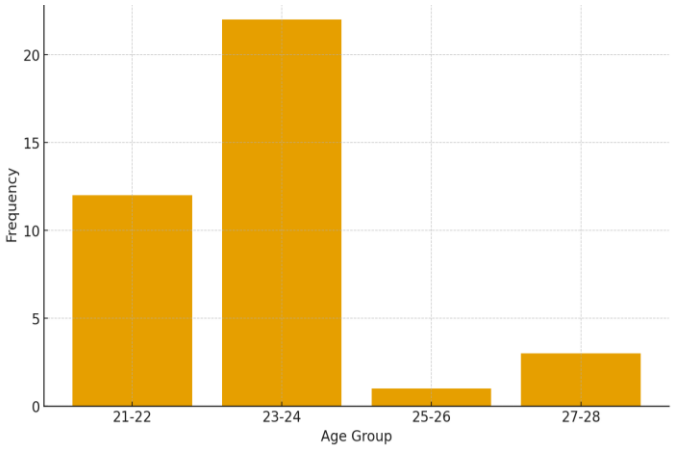
Results and Discussion

Table 1 Demographic Profile Variables



a. Sex

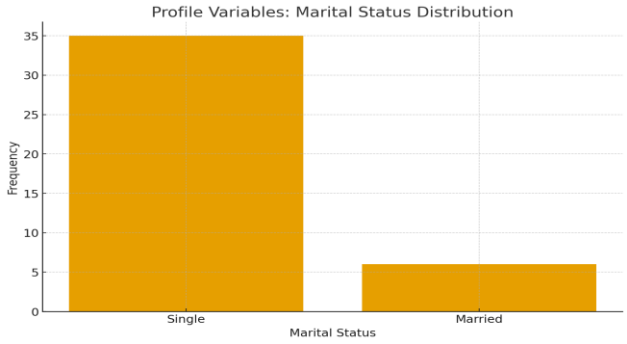
The bar graph illustrates the number of graduates by gender, revealing a higher number of females than males. Specifically, there were 29 female graduates and only 12 male graduates. This indicates that most graduates of the BSEd Physical Science program are women. Such a trend is typical in teacher education, where women are more likely to enroll in education and teaching courses than men. Many women opt for teaching careers because they align with traditional gender roles and their preference for educational professions. The findings suggest that teaching is predominantly a female-dominated field, which can influence classroom dynamics and the gender composition of the teaching workforce in the long run.



b. Age

The bar graph illustrates the age distribution of the BSEd Physical Science graduates of the Isabela State University. The majority of graduates were between 23 and 24 years of age, with the next largest group being those aged 21 to 22. Only a small number were in the 25–26 or 27–28 age brackets, respectively. This indicates that most students completed their degrees promptly after beginning college without any delays. The youthfulness of graduates implies a seamless transition from education to

employment. This aligns with the program's objective of equipping students to become teachers. The study highlights career transitions, as younger graduates are just embarking on their professional journeys and seeking employment after earning their degrees.



c. Status

Among the graduates, 85.4% were single, while only 14.6% were married. This trend is typical for those who have recently completed college, as they tend to prioritize completing their education and securing employment before considering marriage; Being single often facilitates job searching, relocating for work, and taking licensing exams. This aligns with the findings of the study "From Graduation to Employment: Tracking the Career Paths of BSEd Physical Science Alumni at Isabela State University." Many graduates swiftly transitioned into teaching roles after they graduated. Being unmarried may have enabled them to move more quickly, face fewer family constraints, and be better prepared for full-time teaching positions. Understanding whether graduates are single or married is crucial, as it influences their career decisions, mobility for job opportunities, and potential for furthering their education.

Profile Variables		Frequency n=41	Percent
Province of Origin	Isabela	39	85.4
	Qurino	2	14.6
Father's Occupation	Official of Government	1	95.1
	Professional	1	4.9
	Sale Worker	1	2.4
	Farmer, Forestry and Fisherman	23	2.4
	Laborer, Unskilled Worker	1	2.4
	Other community, Social and Personal Service Activities		
	Private Household with Employed	2	56.1
	Persons	3	2.4
	Not employed	6	4.9
Mother's Occupation	Official of Government	2	7.3
	Professional	1	14.6
	Sales worker	2	4.9
	Farmer	6	2.4
	Laborer, Unskilled Worker	1	4.9
	Education	2	14.6
	Health and Social work	1	2.4
			4.9
	Other Community, Social and Personal Service Activities		2.4
	Private Household with Employed Persons	1	2.4
	Not Employed	2	4.9
Family Annual Income	Less than 50,000	17	41.9
	50,000 – 99,000	25	61.0
	100,000 – 199,000	6	14.6
	200,000 – 299,000	2	4.9
	400,000 – 499,000	3	7.3
	1	2	4.9
	2	0	0
	3	0	0
	4	6	14.6

d. other Demographic variables

Data on graduates' demographics reveal that a significant majority (85.4%) hail from Isabela Province, suggesting that the program predominantly caters to local students. A smaller proportion (14.6%) came from Quirino. The fathers are primarily employed in agriculture, forestry, or fishing, underscoring the region's rural character. Many mothers are either unemployed or work in the informal sector. Some parents are engaged in community or social services, indicating limited access to well-paying employment. Family income is generally low, with 61% earning between ₱50,000 and ₱99,000 annually and 41.9% earning less than ₱50,000. This implies that many students originate from low-income families, where educational decisions are influenced by cost, accessibility and employment opportunities. These circumstances emphasize the university's role in aiding students to enhance their lives and explain graduates' eagerness to secure employment after completing their degrees.

Table 2. Frequency and Percent Distribution of the Graduates Educational Background

Profile Variables		Frequency n=41	Percentage
Highest Educational Attainment	Baccalaureate	35	85.4
	Masters	6	14.6
Year Graduated	SY 2017-2018	22	53.7
	SY 2018-2019	19	46.1
Graduate with Honors/ Awards	Yes	2	4.9
	No	39	95.12
Awards Received	Best Thesis	1	2.4
	No award Received	34	82.9
	Other extra-curricular awards	4	9.8
	DOST Awardee	2	4.9
Eligibility	Board Licensure Examination for Professional Teachers	32	78.04
	Non Passers	9	21.96

Table 2 presents data on BSEd Physical Science graduates, shedding light on their academic and career paths. Among the 41 graduates, a large majority (85.4 %) earned bachelor's degrees, while a smaller group (14.6 %) pursued master's level education. Most graduates completed their studies in the 2016–2017 academic year (53.7%), with the remainder finishing in 2017–2018 (46.1%). Only a small percentage (4.9%) of students graduated with honors. The distribution of awards shows diverse recognition of excellence among graduates. One graduate was honored with the "Best Thesis" award, two received recognition from the Department of Science and Technology (DOST), and four were awarded for their extracurricular accomplishments. Despite these accolades, a significant majority (82.9%) did not receive awards. In terms of professional qualifications, a considerable number (78.04%) passed the Board Licensure Examination for Professional Teachers and became licensed educators. This statistic reflects a high rate of transition from graduate to licensed professional, with 21.96% not passing the exam. This summary underscores the program's success in preparing graduates for the teaching profession. While the data on BSEd Physical Science graduates provide a glimpse into their qualifications and accomplishments, a broader under-

standing of how such programs can be designed to improve employability and educational quality might be gained by examining wider studies on employability and curriculum development in scientific-education programs. For instance, research on Bachelor of Science in Mathematics graduates highlighted the need to adapt curricular content to meet 21st-century skills and respond effectively to professional demands (Kalaw, 2019). Additionally, qualitative studies of graduate programs, such as those in physical education, can offer insights into students' socialization and readiness for professional settings (Wilson and Richards, 2019).

Table 3. Reasons for Choosing the Degree or Diploma program

Reasons	Rank
Affordable for the family	1
Prospect for immediate employment	2
Wants to get a prestigious job	3
Prestige in our community	4
More job opportunities are available at ISU graduates	5
Influence of parents or relatives	6
Strong passion for the profession	7
Availability of course offering in ISU	8
Good grades in high school	9
Opportunity for employment abroad	10
Influence of friends/ peers	11
High grades in the course	12
Provided with a college scholarship	13
No particular choice or no better idea	14

The decision to pursue a BSEd in Physical Science was primarily driven by practical and career-focused considerations. The most significant factor was the program's affordability for the family, followed by the likelihood of securing immediate employment and aspirations to obtain prestigious positions. Community prestige and the increased job opportunities available to ISU graduates were also highly valued by the participants. In contrast, the influence of parents or peers, passion for the field, and course availability were deemed less significant. The least impactful reasons included having no specific preference, receiving a scholarship, and high school or course grades, respectively. This suggests that financial factors and job prospects were the primary motivators for graduates in selecting their program, while personal or incidental factors were less influential in their decision.

Table 4. Choice of Educational Institution in terms of the University they graduated from

Item		Frequency n=40	%
Is the university that you graduated from your first choice?	Yes	26	63.4
	No	11	26.8

The selection of a college or university is often swayed by multiple factors, with the institution attended playing a crucial role in shaping students' future prospects and viewpoints. According to Halpern-Felsher et al., universities with strong reputations and positive city images are particularly attractive to international students, highlighting the impact of reputation on university selection (Ma 2021). Similarly, Jones et al. (Ackerman et al., 2022) discovered that choosing a university often mirrors luxury consumption, where students

equate selecting a prestigious institution to opting for a high-status brand, illustrating the strong allure of perceived institutional prestige. Boeyink et al. suggest that elements such as financial aid availability, employment prospects, and geographic location frequently influence students' choices, affecting their engagement and satisfaction (Kasalak, 2021). The data showing that 63.4% of students reported that the university they graduated from was their top choice further supports these observations, highlighting the importance students place on their preferred institutions as they align with their goals and expectations. This underscores the intricate relationship between personal preferences, perceived advantages, and institutional features that steer students' educational decisions.

Table 5. Rank of the Principal Reasons for Choosing ISU

Reasons	Freq.	Rank
Reputation for cheap/affordable tuition fees	23	1
Reputation in the field of your study	18	2
High employability of graduates	20	3
Reputation as a renowned institution	17	4.5
Peers/friends will/are enroll in this college/university	17	4.5
Parents/siblings/relatives are alumni of this college/university	16	6
Reputation as an excellent academic institution	10	7

Graduates often choose Isabela State University (ISU) because of its cost-effective tuition and promising job prospects, a decision that aligns with research highlighting the importance of educational and employment factors in university selection and outcomes. For example, a study on Spanish graduates emphasizes the importance of work experience and ICT knowledge during studies in boosting employability, which aligns with ISU's strong reputation for graduate success in the job market (Portillo-Navarro et al., 2022). Similarly, research on employability at Jouf University identifies career services, skill competencies, and curriculum design as key to enhancing employability, mirroring the reasons for selecting ISU (Alanazi & Benlaria, 2023). Additionally, ISU's esteemed status aligns with studies on the impact of university image on graduate perceptions, highlighting factors such as nationality and the institution's ability to provide specific skills (Haza et al., 2022). This is further supported by studies in Kazakhstan and Canada, where practical experience and social networks significantly affect employment prospects, reflecting secondary reasons for choosing an ISU, such as socialinfluences and peer recommendations (Sekerbayeva et al., 2024; Yang et al., 2020). While affordability and employability are the main reasons for choosing ISU, the importance of academic prestige and social influences as secondary factors aligns with broader findings on the influence of institutional reputation and peer effects on educational choices (Monteiro et al. 2020). Overall, these studies highlight the complex reasons behind university selection among graduates, as seen in the case of the ISU.

Table 6. Frequency and Percent Distribution of the Graduates' Sources of Information in Choosing ISU

Sources of Information	Frequency (n=41)	Percentage
Media (Television, newspapers, radio)	2	4.9
Friends/classmates	16	39.0
High school teacher/counselor	17	41.5
Parents/siblings/relatives	6	14.6

Graduates' decisions regarding which university to attend are greatly impacted by various informational sources. According to the data presented, high school teachers or guidance counselors, peers, family, and the media are the main sources of information. This is consistent with academic research, which highlights the significant impact of social networks and other elements on educational decision-making. Research on Indonesian students found that guidance from family, friends, and teachers, along with the institution's reputation and career prospects, are crucial in choosing a university (Kusumawati et al., 2019). This underscores the essential role of social networks instudents' decision-making. Furthermore, studies on international students in India identified 'university characteristics' and 'social network influence' as primary motivators for their educational choices (Pawar et al., 2020). In Turkey, factors such as awareness of the university, financial aid, and employment opportunities are important in students' university selection, often influenced by their high school experiences and social ties (Kasalak, 2021). The impact of social connections is further supported by research on US students, indicating that university selection often aligns with identity needs and brand-like preferences, similar to purchasing luxury goods (Ackerman et al., 2022). Collectively, these studies demonstrate that the process of choosing a university is complex and is heavily shaped by social networks. This understanding can guide higher education institutions in their recruitment and retention strategies (Kusumawati et al., 2019; Pawar et al., 2020; Ackermann et al., 2022).

Table 7. Frequency and Percentage Distribution of the Graduates' Finances in School

Item		Frequency n=41	Percentage 100percent
Who financed your education?	Parents	19	46.34
	Scholarships	2	4.87
	Work while studying	2	4.87
	Relatives	17	41.46
	Siblings	1	2.43
Where did you live while studying?	Own house	19	46.3
	Boarding house	17	41.5
	Relatives	4	9.8
Tuition			
	Less than 1.000	2	4.9
	1,001-1,500	1	2.4
	1,501-2,000	6	14.6
	2,001-2,500	3	7.3
	2,501-3000	3	19.5
	3,001-3,500	5	12.2
	3,501-4,000	1	2.4
	4,501-5,000	9	22.0
	On scholarship, non-paying	1	2.4
Miscellaneous	Less than 1,000	5	12.2
	1,001-1,500	12	29.3
	1,501-2,000	7	17.1
	2,001-2,500	2	4.9
	2,501-3,000	4	9.8
	3,001-3,500	3	7.3
	3,501-4,000	0	0
	4,501-5,000	1	2.4

The financial circumstances of the graduates reveal that nearly half (46.34%) were financially supported by their parents during their education, while 41.46% depended on their relatives for financial support. A small fraction received scholarships (4.87%), worked while studying (4.87%), or were aided by their siblings (2.43%). Regarding living arrangements, almost half resided in their own homes (46.3%), closely followed by those who lived in boarding houses (41.5%), and a few stayed with relatives (9.8%). Tuition fees varied, with the largest group (22.0%) paying between ₱4,501 and ₱5,000, and 19.5% paying between ₱2,501 and ₱3,000. Miscellaneous fees were mostly in the range of ₱1,001–₱1,500 (29.3%) and ₱1,501–₱2,000 (17.1%). Overall, the data suggest that most students relied on family support and lived either at home or in boarding houses, with tuition and miscellaneous fees generally kept within affordable limits.

Table 8. Weighted Mean and Descriptive Interpretation of the Knowledge/Skills Acquired by the Graduates of the Degree Program

Knowledge/Skills Acquired From the Degree Program	Weighted Mean	Descriptive Interpretation
Basic and higher level literacy, communication, numeracy, critical thinking, learning skills needed for higher learning.	4.07	Very satisfied
Deep and principled understanding of the learning processes and your role as the teacher in facilitating these processes in your students	4.37	Very satisfied
Deep and principled understanding of how educational processes relate to large historical, social, cultural, and political processes	4.2	Very satisfied
Meaningful and comprehensive knowledge of the subject matter you will teach	4.47	Very satisfied
Well-versed in applying a wide range of teaching process skills (including curriculum development, lesson planning, materials development, educational assessment, and teaching approaches)	4.32	Very satisfied
Professional and ethical requirements of the teaching professions	4.35	Very satisfied
Facilitate diverse types of learners, in diverse types of learning environments. Using a wide range of teaching knowledge and skills	4.58	Extremely satisfied
Reflect on the relationships among the teaching process skills, the learning processing in the student, the nature of the content/subject matter, and the broader social forces encumbering the school and educational processes in order to constantly improve your teaching knowledge, skills, and practices	4.36	Very satisfied
Creative and innovative in thinking of alternative teaching approaches, take informed risks in trying out these innovative approaches, and evaluate the effectiveness of such approaches in improving students learning	4.22	Very satisfied
Grand Mean	4.33	Very satisfied

The results concerning graduate employability and career trajectories are consistent with the broader patterns identified in recent studies. Anselmo et al. (2025) highlighted the importance of incorporating outdoor learning environments to promote both environmental responsibility and academic success among students. Their research underscores that

innovative teaching methods not only improve educational outcomes but also develop transferable skills, such as critical thinking, adaptability, and community involvement. Examining the career paths of BSEd Physical Science graduates from Isabela State University suggests that exposure to progressive teaching methods during their education may enhance their preparedness for various teaching roles and their ability to tackle modern educational and societal issues. This insight is reflected in Table 8, which assesses the knowledge and skills acquired by graduates. The high satisfaction scores for skills such as facilitating diverse learners (4.58) and reflecting on teaching processes (4.36) are consistent with recent research on innovative pedagogical methods in the field of science education. Anselmo (2024) discovered that skills such as communication, self-organization, and adaptability were closely associated with student success in remote learning settings during the COVID-19 pandemic. These non-cognitive skills, along with self-efficacy, learning strategies, and digital literacy, are crucial for graduates as they transition into the workforce. Regarding the BSEd Physical Science alumni, these findings imply that the same skills that contributed to their academic success may also aid their adaptability and readiness in their professional careers, particularly in teaching and other education-related fields. However, the relatively lower score for literacy, communication, and critical thinking skills (4.07) suggests an area for potential curriculum improvement, possibly through increased integration of experiential and technology-enhanced learning methods, as highlighted by Anselmo (2024). This could better equip graduates to meet the changing demands of science education and enhance their employability.

Table 9. Mean, and descriptive interpretation of Effectiveness of the Study Program (Program Based-CHED Memo competency by graduate)

Effectiveness of the Study Program and Self-Readiness	Weighted Mean	Descriptive interpretation
Basic and higher level literacy, communication, numeracy, critical thinking, learning skills needed for higher learning.	4.3	Much influence
Deep and principled understanding of the learning processes and your role as the teacher in facilitating these processes in your students	4.43	Much influence
Deep and principled understanding of how educational processes relate to large historical, social, cultural, and political processes	4.3	Much influence
Meaningful and comprehensive knowledge of the subject matter you will teach	4.35	Much influence
Well-versed in applying a wide range of teaching process skills (including curriculum development, lesson planning, materials development, educational assessment, and teaching approaches)	4.42	Much influence
Professional and ethical requirements of the teaching professions	4.65	Extreme influence
Facilitate diverse types of learners, in diverse types of learning environments. Using a wide range of teaching knowledge and skills	4.52	Extreme influence
Reflect on the relationships among the teaching process skills, the learning processing in the student, the nature of the content/subject matter, and the broader social forces encumbering the school and educational processes in order to constantly improve your teaching knowledge, skills, and practices	4.5	Extreme influence
Creative and innovative in thinking of alternative teaching approaches, take informed risks in trying out these innovative approaches, and evaluate the effectiveness of such approaches in improving students learning	4.43	Much influence
Grand Mean	4.43	Much influence

The graduates' perception of the study program's effectiveness resulted in an overall mean score of 4.43, categorized as having "much influence." The areas that received the highest ratings were the professional and ethical standards of the teaching profession (4.65), the ability to support diverse learners in various settings (4.52), and the capacity to reflect on teaching practices and the broader educational landscape (4.50), all of which were described as having an "extreme influence." Other skills, including curriculum development, subject matter expertise, and innovative teaching methods, also received high ratings, indicating "much influence." In contrast, fundamental skills such as literacy, communication, numeracy, and critical thinking (4.30) were rated slightly lower but still strong. These findings suggest that the program had a significant impact on graduates' preparedness for teaching, especially in the areas of ethics, inclusivity, and reflective practice, while also maintaining effectiveness in essential and technical teaching skills.

Table10. Recommendation of the Graduates to others

Item		Freq.	%
Would you recommend to your family members or friends to study in this University/College?	Yes	41	100
	No		

In higher education, alumni recommendations serve as a significant measure of an institution's performance and standing. According to Pedro and Andraz (2019), alumni's dedication and satisfaction are key factors influencing their likelihood of endorsing their former university. Elements such as the caliber of educational instruction, interactions with faculty, and the institution's overall image play a crucial role in this decision-making process. Alumni endorsements can bolster an institution's reputation and attract potential students. Moreover, the sense of connection alumni feel is essential to their willingness to support the institution beyond recommendations (Maulana et al., 2023). This connection is often nurtured through a strong sense of community and positive experiences during and after their academic journey. Satisfaction with an institution's mission and outcomes can also influence alumni recommendations, as shown in studies of Christian higher education institutions that assess the alignment between educational mission and outcomes (Schreiner, 2018).

Table 11. Frequency and Percent Distribution of the Graduate further studies

Item		Frequency n=41	Percentage 100%
After graduating from University/College, did you enroll in further studies?	Yes	8	20
	No	32	80
Mode of Study			
	Full-time	4	10
Level of Study	Part-time	4	10
	Masters	6	15
	Graduate Diploma		
	Second Degree		
	Short Courses		
	Certificate		
		1	2.5
Is the area of study similar or related to your previous areas of study?	Yes	1	2.5
	No	5	12.5
		3	7.5
Reasons for Further studies			
	Strong interest in seeking knowledge	3	7.5
	Enhance Academic credentials/qualification/promotion	5	12.5
	Better job prospects	1	2.5

According to the data, only 20% of graduates opted for further education post-graduation, while the majority, 80%, chose not to continue their studies. Of those who pursued further education, there was an equal division between full-time (10%) and part-time (10%) study modes. At the graduate level, most pursued a master's degree (15%), with a smaller number enrolling in certificate programs (2.5%) or other advanced studies. Regarding the relevance of their field of study, only 2.5% studied areas directly related to their previous courses, whereas 12.5% ventured into different fields. The primary motivations for further study included better job prospects (12.5%), enhancing academic credentials or promotion opportunities (7.5%), and a keen interest in acquiring knowledge (7.5%). These findings indicate that while most graduates entered the workforce immediately, a small segment saw advanced education as a valuable route for career growth and specialization.

Table 12. Frequency and Percentage Distribution of Graduates' Employment Data.

Employment Data		Frequency n=4	Percentage 100percent
Are you presently employed	Yes	32	78.0
	No	6	14.6
Reasons why you are not yet employed	Further Studies	6	16.2
	Family responsibility	16	43.2
	No job opportunity	8	21.6
Job Sector	Reviewing for LET	7	18.9
	Local Government	5	12.2
	Education (private school)	7	17.1
	Education (public school)	8	19.5
	Private (local)	3	7.3
	Private (foreign)	2	4.9
	Broadcasting		
	NGO		
Present Employment Status			
	Regular or Permanent		
	Temporary	10	24.4
	Casual	10	24.4
Present Occupation	Contractual	5	12.2
	Job order	7	17.1
	Official of Government and Special-interest Organization,	2	4.9
	Corporate Executive, Manager, Managing Proprietor, Supervisor	1	2.4
	Professional		
	Technical, Associate Professional		
	Farmer, Forestry		
	Worker Fisherman	3	7.3
	Education	2	4.9
	Private Households with Employed	1	2.4
Designation	Persons	18	43.9
	Extra-Territorial Organization	1	2.4
	Not employed		
	Teacher	1	2.4
	Clerk	2	4.9
How long have you worked with the company office?	Distributor	18	62.1
	Tutor	8	27.6
	Broadcaster	1	3.4
	Representative	2	6.9

Starting gross monthly income	Less than 6 months	12	29.3
	Less than 1 year	6	14.6
	Less than 2 years	4	9.8
	Less than 3 years	5	12.2
	Others	1	2.4
Currently monthly earning	5,000 to less than 10,000	19	46.3
	11,000 to less than 15,000	5	12.2
	16,000 to less than 20,000	1	2.4
	21,000 to less than 25,000	3	7.3
	26,000 above	3	7.3
		3	7.3
	Below 5,000	16	31.7
	5,000 to less than 10,000	6	14.6
	11,000 to less than 15,000	1	2.4
	16,000 to less than 20,000	5	12.2
	21,000 to less than 25,000	1	2.4
	45,000 and above		

The job market for graduates often reveals a pattern of low earnings and job instability, particularly in the education field, where many graduates become teachers. This is consistent with broader research findings on graduate employment across various regions and sectors. For example, in Germany, there is a noted demand for graduates despite the increase in higher education levels. However, this demand is coupled with underemployment issues, particularly among female graduates, leading to stagnant wage differences (Henseke 2018). Similarly, in Singapore, the growth in higher education has not necessarily resulted in better job matches, with many graduates facing a significant wage gap due to their working in roles that do not fully utilize their skills (Green and Henseke, 2021). In Spain, the mismatch between graduates' educational qualifications and their job roles suggests that universities should provide robust job-search support, such as internships, to enhance job quality. When university systems assist with job placement, graduates tend to secure better-matched and higher quality positions (Albert and Davia, 2023). The situation in Italy highlights the ongoing disconnect between education and industry, leading to declining job quality. This indicates a need for policy reforms that focus not only on increasing graduate employment rates but also on improving the quality of jobs that graduates obtain (Angeloni, 2019). A study in Shillong Town points out the involuntary nature of unemployment among educated youth, often resulting in contractual and unstable jobs, similar to the situation of many graduates in temporary or contractual employment. Technical education is vital for accessing better job opportunities, suggesting that aligning education with job market demands can alleviate employment challenges (Hynniewta 2021). Although employment opportunities exist for graduates, their quality and stability are inconsistent. The findings across different contexts highlight the importance of aligning educational outcomes with labor market needs and enhancing institutional support to improve job quality and satisfaction among graduates.

Recommendation

In light of the analysis of the career trajectories and employability of BSEd Physical Science graduates from Isabela State University–Cauayan Campus (2017–2019), it is advised that the program consistently enhance its curriculum. This should include more hands-on laboratory experiences, the integration of educational technologies, and the development of essential skills such as literacy, communication, and critical thinking to better equip graduates for various teaching and science-related professions. Enhancing career support services

through alumni mentorship, job placement assistance, and collaboration with local schools and industries is crucial for facilitating smoother transitions into employment. Developing targeted socioeconomic support initiatives, such as scholarships and financial aid for students from low-income and rural areas, is necessary to lower educational and career advancement barriers. Implementing regular alumni tracking and feedback systems is important to keep up with changing labor market needs and to guide program modifications. Promoting further studies and specialization will boost graduates' professional development and career flexibility. Additionally, incorporating soft skills training and introducing entrepreneurship and alternative career paths into the curriculum will broaden employment prospects and enhance graduates' adaptability. These strategies aim to improve graduate readiness, employability, and satisfaction, ensuring that the program remains aligned with both local community needs and broader labor market trends.

References

Alanazi, A. S., & Benlaria, H. (2023). Bridging Higher Education Outcomes and Labour Market Needs: A Study of Jouf University Graduates in the Context of Vision 2030. Social Sciences, 12(6), 360. https://doi.org/10.3390/socsci12060360

Ackerman, D. S., Moriuchi, E., & Gross, B. L. (2022). Princeton as Prada: college choice in the United States as luxury consumption for the extended self. Journal of Marketing for Higher Education, 34(2), 1–23. https://doi.org/10.1080/08841241.2022.2070939

Albert, C., & Davia, M. A. (2023). University-supported job search methods and educational mismatch in bachelor's and master's graduates. Education + Training, 65(10), 29–45. https://doi.org/10.1108/et-04-2022-0144

Alvarez, M. T. S., & Cammayo, E. U. (2023). A graduate's employability study of bachelor of science in entrepreneurship of Isabela State University, Philippines. International Journal of Evaluation and Research in Education (IJERE), 12(1), 164. https://doi.org/10.11591/ijere.v12i1.22841

Angeloni, S. (2019). A Policy Reform Aimed at Improving the Job Quality of Graduates. Higher Education Policy, 34(4), 861–880. https://doi.org/10.1057/s41307-019-00169-7

Anselmo CT (2024) The Impact of Covid-19 Pandemic on Physics Education: Predictors of Student Performance in Distance Learning. American J Sci Edu Re: AJSER-196.

Anselmo, C. T., Dumelod, D. A., Molano, T. , Bete-Liban, A. , Cagayan, A. D., Maglelong, A. & Mara, J. A. (2025). Integrating Outdoor Learning Environments: Fostering Environmental Stewardship and Academic Achievement. Psychology and Education: A Multidisciplinary Journal, 39(5), 565-570. https://doi.org/10.70838/pemj.390501

Chen, J. (2024). Construction of career planning and employment guidance system for college students. Applied Mathematics and Nonlinear Sciences, 9(1). https://doi.org/10.2478/amns-2024-2330

Chen, L., & Zeng, S. (2021). The Relationship Between Intolerance of Uncertainty and Employment Anxiety of Graduates During COVID-19: The Moderating Role of Career Planning. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.694785

Clarke, M. (2018). Rethinking graduate employability: The role of capital, individual attributes and context. Studies in Higher Education, 43(11), 1923-1937. https://doi.org/10.1080/03075079.2017.1294152

Coopers & Lybrand. (2020). Expanding the skills base: The role of higher education in graduate employability. Department of Education and Skills

Fini, R., Meoli, A., & Sobrero, M. (2022). University graduates' early career decisions and interregional mobility: self-employment versus salaried job. Regional Studies,

56(6), 972–988. https://doi.org/10.1080/00343404.2022.2069236

Green, F., & Henseke, G. (2021). TASK-WARRANTED GRADUATE JOBS AND MISMATCH. The Singapore Economic Review, 1–23. https://doi.org/10.1142/s0217590821500399

Haza, K. A., Abdel-Salam, A.-S. G., Mollazehi, M. D., Mohamed, R. I., Ahmed, M. A., Al-Tameemi, R. A., Bensaid, A., Johnson, C., & Romanowski, M. H. (2022). Factors affecting university image among graduate alumni: A case study of Qatar university. Heliyon, 8(6), e09668. https://doi.org/10.1016/j.heliyon.2022.e09668

Hendley, K. (2021). Rethinking the role of personal connections in the Russian labor market: getting a job as a law graduate in Russia. Post-Soviet Affairs, 37(3), 242–260. https://doi.org/10.1080/1060586x.2021.1874768

Henseke, G. (2018). Against the Grain? Assessing Graduate Labour Market Trends in Germany Through a Task-Based Indicator of Graduate Jobs. Social Indicators Research, 141(2), 809–840. https://doi.org/10.1007/s11205-018-1839-x

Hillage, J., & Pollard, E. (2020). Employability: Developing a framework for policy analysis. Department of Education and Skills,

Hynniewta, S. G. (2021). Employment Challenges and Aspirations of Educated Youth: A Case Study of Shillong Town. The Indian Journal of Labour Economics, 64(1), 217–234. https://doi.org/10.1007/s41027-021-00303-3

Jackson, D. (2018). Accounting and Finance Graduate Employment Outcomes: Underemployment, Self-employment and Managing Diversity. Australian Accounting Review, 30(3), 193–205. https://doi.org/10.1111/auar.12256

Leyaley, C. (2016). The role of teacher education in the employability of graduates in the Philippines. Philippine Constitution.

Kalaw, M. T. B. (2019). Tracer study of Bachelor of Science in Mathematics. International Journal of Evaluation and Research in Education (IJERE), 8(3), 537. https://doi.org/10.11591/ijere.v8i3.17434

Kasalak, G. (2021). Does university choice decision matter for school engagement and student alienation? Waikato Journal of Education, 26(2). https://doi.org/10.15663/wje.v26i2.732

Kusumawati, A., Yanamandram, V., & Perera, N. (2019). Modelling trade-offs in students' choice set when determining universities. International Journal of Educational Management, 33(5), 979–989. https://doi.org/10.1108/ijem-01-2018-0007

Lu, X., & Wei, L. (2023). Teaching reform and innovation of vocational development and employment guidance courses in colleges and universities based on random forest model. Applied Mathematics and Nonlinear Sciences, 9(1). https://doi.org/10.2478/amns.2023.2.00229

Ma, A.-H. S. (2021). Assessing the Effects of University Reputation and City Image on International Student Destination Choice: Evidence from a Flagship University in Taipei. Education and Urban Society, 54(8), 992–1009. https://doi.org/10.1177/0013124521101384 4

Misra, R. K., & Khurana, M. (2021). Graduate employability: Bridging the gap between university education and employment. Journal of Education and Work, 34(3), 213-228. https://doi.org/10.1080/13639080.2021.1888366

Monteiro, S., Almeida, L., Gomes, C., & Sinval, J. (2020). Employability profiles of higher education graduates: a person-oriented approach. Studies in Higher Education, 47(3), 499–512. https://doi.org/10.1080/03075079.2020.1761785

Pawar, S. K., Islam, T., Vispute, S., & Chanda, R. (2020). International students' motivations for studying in Indian universities:

Implications for value proposition and positioning strategies. Research in Comparative and International Education, 15(2), 158–170. https://doi.org/10.1177/1745499920910579

Pedro, I. H., & Andraz, J. M. (2019). Alumni Commitment in Higher Education Institutions: Determinants and Empirical Evidence. Journal of Nonprofit & Public Sector Marketing, 33(1), 29–64. https://doi.org/10.1080/10495142.2019.1656138

Perig, A. V., Kaikatsishvili, A. G., Golodenko, N. N., & Martynov, R. S. (2020). Educational research into socio-economic dynamics of university graduate employment: Triple analogy-based physics-and-engineering approach to labor market oscillations. Work, 65(1), 3–29. https://doi.org/10.3233/wor-193054

Portillo-Navarro, M. J., Lagos-Rodríguez, G., & Meseguer-Santamaría, M.-L. (2022). Employability of University Graduates with Disabilities in Spain. International Journal of Environmental Research and Public Health, 19(3), 1463. https://doi.org/10.3390/ijerph19031463

Schreiner, L. A. (2018). What Good Is Christian Higher Education? Christian Higher Education, 17(1–2), 33–49. https://doi.org/10.1080/15363759.2018.1404362

Sekerbayeva, A., Satpayeva, Z., Tarman, B., Razakova, D., & Tamenova, S. (2024). Analysis of employment factors for university graduates in Kazakhstan. Problems and Perspectives in Management, 22(2), 683–695. https://doi.org/10.21511/ppm.22(2).2024.5

Smith, C., Ferns, S., & Russell, L. (2018). Conceptualizing and measuring 'employability': Lessons from a national OLT project. Journal of Teaching and Learning for Graduate Employability, 9(1), 2-18. https://doi.org/10.21153/jtlge2018vol9no1art701

Wilson, W. J., & Richards, K. A. R. (2019). Socialization of Preservice Adapted Physical Educators: Influence of Teacher Education. Adapted Physical Activity Quarterly, 36(4), 472–491. https://doi.org/10.1123/apaq.2018-0198

Yahya, A. E., Yafooz, W. M. S., & Gharbi, A. (2024). Mapping Graduate Skills to Market Demands: A Holistic Examination of Curriculum Development and Employment Trends. Engineering, Technology & Applied Science Research, 14(4), 14793–14800. https://doi.org/10.48084/etasr.7454