



EVALUATING EMPLOYMENT OUTCOMES AND PROGRAM RELEVANCE: A TRACER STUDY OF LAGUNA UNIVERSITY'S COLLEGE OF EDUCATION GRADUATES (2021-2024)

(Research Article)

Jovelle M. Reyes^{a *}, Rose Nannette J. San Juan^b, Florencia S. Miñas^c, Rosemarie D. Sabado^d

^{a,b,c,d} Laguna University, Santa Cruz, Laguna, 4009, Philippines

Received: 31.10.2024

Revised version received: 23.01.2025

Accepted: 25.01.2025

Abstract

This study aimed to assess the employability of Laguna University College of Education graduates and the alignment of their academic programs with labor market demands. The study employed a quantitative descriptive research design with a sample size of 139 graduates from the Bachelor of Elementary Education (BEEd) and 188 Bachelor of Secondary Education (BSEd) programs, including majors in English, Mathematics, and Science, from the academic years 2021 to 2024. The findings revealed a high employability rate among the respondents, with 89.21% of BEEd graduates employed, predominantly in teaching roles. Similarly, BSEd graduates, particularly those majoring in English, also showed strong employment outcomes, with 92.93% employed in teaching. Non-teaching roles accounted for a smaller percentage of employment, indicating a strong alignment between the graduates' academic preparation and job market demands. The study concludes that Laguna University's College of Education effectively equips graduates with the necessary skills for teaching careers. The implications of these findings suggest that higher education institutions, like Laguna University, continue to align curricula with labor market requirements to ensure that graduates possess both technical and transferable skills for career success. Additionally, educational policies and programs could benefit from further integration with industry needs to enhance employability.

Keywords: *tracer study, job roles alignment, frequently used skills, Laguna University*

© IJETS- Published by International Journal of Education Technology and Science (IJETS). Copyright for this article is retained by the author(s), with first publication rights granted to the Journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (CC BY-NC-ND) (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

*Corresponding author: Jovelle M. Reyes. ORCID ID.: <https://orcid.org/0009-0006-4081-3083>

E-mail: jovelle1102@gmail.com

DOI: <https://doi.org/10.5281/zenodo.14906200>

1. Introduction

1.1. Introduction to the problem

One of the primary goals of higher education institutions is to produce graduates who are globally competitive and those who excel in their chosen fields of specialization. Universities strive to achieve this by offering well-structured courses, relevant activities, and well-planned curricula that ensure students acquire the knowledge, skills, and competencies necessary for professional success. A key measure of a university's effectiveness lies in the employability of its graduates.

In the Philippines, unemployment and underemployment remain pressing concerns, particularly among college graduates. As of July 2024, 2.38 million Filipinos were unemployed, a significant rise from 1.62 million in June and 2.29 million in July 2023 (Cordero, 2024). A survey conducted by the Social Weather Station (SWS) in September 2023 revealed that joblessness was highest among college graduates, accounting for 25.6% of the total unemployed adult labor force. Despite employers expressing a preference for hiring college graduates, a substantial portion of this demographic remains unemployed or underemployed.

Underemployment, where college graduates occupy roles that do not align with their education and training, highlights the ongoing mismatch between academic preparation and labor market demands. This challenge has persisted even before the implementation of the K–12 program, with many college graduates struggling to secure positions that fully utilize their skills and knowledge. Such misalignment also impacts the perceived employability of K–12 graduates, emphasizing the need for stronger alignment between education and industry demands (Lu, 2024).

The Commission on Higher Education (CHED) emphasizes that free higher education is a critical investment, aiming to produce graduates capable of securing employment both locally and abroad (Ordoñez, 2024). According to HE Professional Team (2023), to address these challenges, higher education institutions need to ensure that students receive comprehensive instruction, emphasizing the development of employability—a set of skills encompassing technical expertise, transferable competencies, and personal attributes. Employability is not merely the acquisition of technical skills but also the ability to adapt and thrive in dynamic job markets.

Tracking graduate employability is essential to assess the readiness of university curricula and resources in preparing students for their professional journeys. At Laguna University, the College of Education consistently produces graduates and board passers annually. However, in light of the rising unemployment and underemployment rates, it becomes imperative to evaluate how effectively these graduates perform in the labor market. This study aims to

examine the employability of Laguna University College of Education graduates, providing insights into the alignment of the institution's academic offerings with labor market demands.

1.2. Review of Related Literature

Employability refers to the collection of skills, knowledge, and personal attributes that increase graduates' chances of securing employment and excelling in their careers, contributing positively to themselves, the workforce, the community, and the economy. (FutureLearn, 2022). This aligns with the definition provided by Casanova and Paguia in 2022, who stated that employability refers to the skills obtained by individuals that make them hireable. They further explained that employability evaluates an institution's ability to produce graduates who can secure jobs across various industries.

A well-implemented curriculum is essential for equipping graduates with the skills and knowledge required for the workforce, directly impacting their employment outcomes. Particularly in Competency-Based Education (CBE), effective curriculum design demands collaboration among educators, policymakers, and institutions, alongside robust teacher training and sufficient resources (Karani, Miriam, & Mironga, 2021). Graduate employment outcomes serve as a key measure of how effectively curricula address industry demands. By assessing these outcomes, higher education institutions (HEIs) can fine-tune their strategies to improve employability and enhance undergraduate programs (Cheng, Adekola, Albia & Cai, 2021). This ongoing evaluation allows HEIs to align curricula with job market trends, better preparing graduates for successful careers.

A tracer study, as defined by Novalindry and Hakim (2022), is a valuable method for higher education institutions (HEIs) to assess the effectiveness of their curricula and gather feedback on how well they prepare graduates for the workforce. These studies help identify shortcomings in educational programs, offering insights into how the knowledge and skills taught align with the demands of the job market. By evaluating graduates' job satisfaction levels and long-term career success, tracer studies provide HEIs with essential data on the relevance of their programs. This feedback is crucial for refining curricula, improving educational practices, and ensuring graduates are equipped with the skills needed for evolving professional landscapes (Agustin, 2021). Furthermore, tracer studies allow institutions to better understand the challenges graduates face in the workplace, such as the need for more career development opportunities and work environments that support work-life balance. The findings from these studies help institutions address these issues and align their programs with industry expectations and societal needs, fostering stronger partnerships with employers and creating educational experiences that better prepare graduates for future success (Patulin, Degamon, Borja, & Vasquez, 2024; ACER News, 2021).

Alumni play crucial roles in such studies. Graduates inspire new generations of students to strive for success and pursue careers in their desired fields. These studies also assess the quality of teaching and learning experiences an HEI offers, reflecting the excellence of the

teaching staff and administration. Furthermore, alumni feedback can guide institutions in making necessary improvements to better support student success and career readiness (Hasibuan, Silaban, Lubis, & Prayogo, 2022).

The alumni are key to providing insightful feedback on the strengths and weaknesses of their academic experience and the alignment of the skills taught with job market needs, which can strengthen the reputation of an institution (Achmad, Syariffuddien, & Endryanyah, 2023). Their perspectives help identify areas where the curriculum excels and where it may fall short, allowing for targeted improvements. By ensuring that the education provided is relevant and meets current industry standards, alumni feedback plays a crucial role in enhancing the employability of graduates. This, in turn, bolsters the institution's reputation as a provider of high-quality, market-relevant education, attracting future students and fostering stronger connections with industry partners.

1.3. Research objective

The study aims to achieve the following objectives:

1. To analyze the employment profile of the respondents.
2. To identify the transferable skills acquired by the respondents and applied in their jobs.
3. To determine the alignment of the respondents' current roles with the academic programs they graduated from.

2. Theoretical Framework

Human Capital Theory

Human Capital Theory, initially developed by Becker (1962) and Rosen (1976), emphasizes the relationship between education and productivity. It posits that investments in education, such as those made in higher education institutions (HEIs), enhance individuals' skills, knowledge, and capabilities, leading to increased productivity and improved economic outcomes. Almendarez (2010) highlights that individuals with higher education often secure better jobs and earn higher incomes, contributing to a nation's overall economic growth.

This theory is particularly relevant to the study as it underscores the role of HEIs, such as Laguna University, in preparing students for higher employability and better economic opportunities. By enhancing students' skills and knowledge, the institution aligns with the goal of fostering individual success and contributing to broader societal advancement.

Investment Theory

Investment Theory, as outlined by Psacharopoulos and Patrinos (2018), evaluates the costs and benefits of pursuing education over time. The theory likens the returns on educational investment to financial returns, such as interest accrued on savings or profits generated from business ventures. By dedicating time, money, and effort to education, individuals can achieve

higher earnings, better job prospects, and greater productivity. Similarly, Jorgenson and Fraumeni (1989) underscore that education fosters innovation, social well-being, and economic progress, making it a pivotal factor for individual and societal prosperity.

This theory informs the study by highlighting education as a long-term investment, emphasizing its potential to yield measurable returns in terms of employability, income, and productivity. Institutions like Laguna University play a critical role in ensuring that these investments translate into tangible benefits for graduates, further justifying the need for a tracer study to assess and optimize educational outcomes.

3. Method

3.1. Research Design

This study employed a quantitative descriptive research design to explore and analyze the employment status of Laguna University graduates. Specifically, it aimed to determine whether the university effectively equipped its graduates with the necessary skills and knowledge to meet the demands of their respective industries.

3.2. Sampling Techniques

The study employed a convenience sampling technique to select respondents. The participants were graduates of the College of Education programs at Laguna University, specifically those who completed the Bachelor of Elementary Education (BEEd) and the Bachelor of Secondary Education (BSEd) with majors in English, Mathematics, and Science, from the academic years 2021 to 2024. The respondents included 139 BEEd graduates and BSEd graduates, comprising 99 majors in English, 37 in Mathematics, and 52 in Science. This sampling technique enabled the inclusion of a diverse group of graduates who could provide valuable insights into the employment outcomes and the relevance of their academic preparation to their current job roles.

3.3. Research Instrument

This study employed a survey questionnaire adapted from the Commission on Higher Education (CHED) Tracer Questionnaire. The questionnaire was modified to align with the specific objectives of the study, focusing on the employment status, transferable skills, and job alignment of graduates from Laguna University's College of Education programs. Reliability testing yielded a Cronbach's alpha of 0.721, indicating good reliability, and this was conducted with 15 respondents.

3.4 Data Analysis

The collected data were analyzed using Microsoft Excel. Statistical treatments, including frequency counts and percentages, were applied to assess the graduates' current employment status, transferable skills, and job alignment with their college programs.

4. Findings and Discussion

This part shows the analysis of the study to examine the respondents' employment profiles in terms of their employment status, to identify year of graduation and the alignment of employment with their field of study; and to assess the alignment of their job roles with their college education.

4.1 Analysis the employment profile of the respondents

Table 1.1. *Bachelor of Elementary Education*

Batch	Total Graduates	Total Responses	Employed			
			Teaching	%	Non-Teaching	%
2021-2022	38	36	32	23.02	4	2.88
2022-2023	63	58	51	36.69	7	5.04
2023-2024	70	45	41	29.50	4	2.88
Total	171	139	124	89.21	15	10.79

Table 1.1 provides an overview of the employment profile of graduates from the College of Education across three academic batches: 2021–2022, 2022–2023, and 2023–2024. Out of the 171 total graduates from these batches, 139 provided responses to the survey. Among them, 124 respondents reported being employed, with the majority working in teaching-related positions. For the 2021–2022 batch, 38 students graduated, and 36 responded, with 32 employed; 23.02% are engaged in teaching, while 2.88% are in non-teaching roles.

For the 2022–2023 batch, there were 63 graduates, 58 of whom responded, with 51 reporting employment. Of these, 36.69% are in teaching, and 5.04% are in non-teaching roles. Meanwhile, for the 2023–2024 batch, 70 students graduated, with 45 responding. Among the respondents, 41 are employed, with 29.50% working in teaching roles and 2.88% in non-teaching positions. Overall, across the three batches, 89.21% of employed graduates are in teaching, while 10.79% pursued non-teaching careers.

This data suggests that BEED graduates from the College of Education at Laguna University are highly employable, particularly in the teaching field. With 89.21% of the respondents employed in teaching positions, it is evident that the majority of graduates are successfully entering the education sector.

Table 1.2. *Bachelor of Secondary Education Major in Mathematics*

Batch	Total Graduates	Total Responses	Employed			
			Teaching	%	Non-Teaching	%
2021-2022	9	9	7	18.92	2	5.41
2022-2023	9	9	7	18.92	2	5.41
2023-2024	23	19	16	43.24	3	8.11
Total	41	37	30	81.08	7	18.92

Table 1.2 presents an analysis of the employment profile of graduates from three academic batches: 2021–2022, 2022–2023, and 2023–2024. For the 2021–2022 batch, 9 students graduated, all of whom responded to the survey. Among the respondents, 7 are employed, with 18.92% working in teaching positions and 5.41% in non-teaching roles. The data for the batch 2022–2023 are consistent with the previous year, with 9 graduates, all responding, and 7 employed. The employment distribution remained the same, with 18.92% in teaching and 5.41% in non-teaching positions.

For batch 2023–2024, 23 students graduated, and 19 responded to the survey. Of the respondents, 16 were employed, with 43.24% in teaching roles and 8.11% in non-teaching positions. Across all three batches, a total of 41 graduates completed the program, with 37 providing survey responses. Of these, 30 are employed, representing 81.08% of the respondents. The majority of these employed graduates (18.92%) are in teaching-related positions, while a smaller proportion (18.92%) pursued non-teaching careers.

This shows that the BSED major in Mathematics graduates of Laguna University are employable and most of them are employed in the teaching industry.

Table 1.3. *Bachelor of Secondary Education Major in English*

Batch	Total Graduates	Total Responses	Employed			
			Teaching	%	Non-Teaching	%
2021-2022	18	18	16	16.16	2	2.02
2022-2023	40	37	34	34.34	3	3.03
2023-2024	71	44	42	42.42	2	2.02
Total	129	99	92	92.93	7	7.07

Table 1.3 presents an analysis of the employment profile for graduates from three academic batches: 2021–2022, 2022–2023, and 2023–2024.

For batch 2021–2022, there are 18 graduates, and all 18 provided responses to the survey. Among the respondents, 16 are employed, with 16.16% holding teaching positions and 2.02% in non-teaching roles. In batch 2022–2023, 40 graduates completed the program, and 37 responded to the survey. Of these, 34 graduates are employed, with 34.34% in teaching positions and 3.03% in non-teaching roles. For the batch 2023–2024, 71 graduates completed the program, and 44 provided responses. Among the respondents, 42 are employed, with 42.42% engaged in teaching-related positions and 2.02% in non-teaching positions.

Across all three batches, a total of 129 graduates completed the program, with 99 responding to the survey. Of the respondents, 92 graduates are employed, representing 92.93% of the total respondents. The majority of employed graduates (92.93%) are in teaching positions, while 7.07% are employed in non-teaching roles.

The data reflects positive employability for BSED-English graduates, as a high percentage, 92.93%, are currently employed in teaching roles, and all respondents, regardless of their employment status.

Table 1.4. *Bachelor of Secondary Education Major in Science*

Batch	Total Graduates	Total Responses	Employed			
			Teaching	%	Non-Teaching	%
2021-2022	13	11	9	9.09	2	2.02
2022-2023	18	15	12	12.12	3	3.03
2023-2024	34	26	24	24.24	2	2.02
Total	65	52	45	45.45	7	7.07

Table 1.4 presents the employment profile of graduates from three academic batches: 2021–2022, 2022–2023, and 2023–2024.

In the 2021–2022 batch, there were 13 graduates, and 11 provided responses to the survey. Of the respondents, 9 were employed, with 9.09% in teaching positions and 2.02% in non-teaching roles. The 2022–2023 batch had 18 graduates, with 15 responses. Of the respondents, 12 were employed, with 12.12% in teaching roles and 3.03% in non-teaching positions. For the 2023–2024 batch, 34 graduates completed the program, and 26 responded to the survey. Among the respondents, 24 were employed, with 24.24% in teaching positions and 2.02% in non-teaching positions.

Overall, across the three batches, 65 graduates completed the program BSEd major in Science, with 52 responding to the survey. Of the respondents, 45 were employed, representing 45.45% in teaching positions and 7.07% in non-teaching roles. This data reveals that a significant proportion of graduates found employment in teaching-related fields, with a smaller but notable number securing non-teaching positions.

All the tables show that there is alignment between the college program and occupation of the respondents which are mostly in the teaching field. The college major and current occupation are closely linked, as the skills and knowledge students acquire in college are intended to be directly applicable and beneficial to their careers (Cheng, 2021). In support of the results, many researchers state that graduates often experience higher salaries and job satisfaction when their college education aligns with their current jobs. Additionally, matching educational and occupational expectations typically results in better outcomes not only in college but also in the labor market (Ahearn, 2021; Kolosova, Rudakov, & Roshchin, 2020; Chen, Rocha-Beverly, & Schneider, 2021).

4.2 Transferrable Skills Acquired of the respondents applied in their jobs

Table 2. Transferrable Skills Acquired of the respondents applied in their jobs

Transferable Skills	BEEd (139)		BSEd English (99)		BSEd Math (37)		BSEd Science (52)		Total	%
	f	%	f	%	f	%	f	%		
Communication skills	119	85.61	79	79.80	35	94.59	43	82.69	276	84.40
Human Relations skills	99	71.22	71	71.72	22	59.46	37	71.15	229	70.03
Information Technology skills	129	92.81	95	95.96	30	81.08	46	88.46	300	91.74
Problem-solving skills	53	38.13	49	49.49	34	91.89	40	76.92	176	53.82
Critical Thinking skills	56	40.29	41	41.41	36	97.30	47	90.38	180	55.05
Entrepreneurial skills	126	90.65	6	6.06	3	8.11	5	9.62	140	42.81

The data reveal that communication skills are the most prevalent transferable skill among graduates, with an overall percentage of 84.40%. BEEd graduates demonstrate the highest proficiency in communication skills (85.61%), followed closely by BSEd Math (94.59%), BSEd Science (82.69%), and BSEd English (79.80%). Human relations skills rank second, with a moderate overall percentage of 70.03%. BEEd graduates again lead in this category at 71.22%, closely followed by BSEd English (71.72%) and BSEd Science (71.15%), while BSEd Math has the lowest percentage (59.46%). These findings suggest that graduates across all programs possess strong communication skills and moderate human relations skills, with slight variations across disciplines.

Many skills that individuals develop during their college education are designed to help in getting good employment. Many jobs now require a college degree, and not having a degree can put you at a disadvantage compared to other candidates. Additionally, internships and practical experiences offered by colleges can provide valuable insights into your future career, making a degree beneficial for standing out to employers (Bisio, 2022).

4.3 Assessment of the alignment of the respondents' job roles with their college education

Table 3. *Alignment of Job Roles with College Degree per Program*

Program	Total Graduates	Teaching		Non-Teaching	
		f	%	f	%
BEEd	171	124	30.54	15	3.69
BSEd English	129	92	22.66	7	1.72
BSEd Science	65	45	11.08	7	1.72
BSEd Mathematics	41	30	7.39	7	1.72
Total	406	291	71.67	36	8.87

The data from Table 2 provides an overview of the employment distribution of graduates from various programs within the College of Education across three academic batches: 2021–2022, 2022–2023, and 2023–2024. It breaks down the employment status of graduates in teaching and non-teaching roles by program.

For the BEEd program, which had 171 total graduates, 124 graduates (30.54%) were employed in teaching positions, and 15 graduates (3.69%) found employment in non-teaching roles. In the BSEd English program, with 129 total graduates, 92 graduates (22.66%) were employed in teaching, while 7 (1.72%) were in non-teaching jobs. The BSEd Science program had 65 total graduates, with 45 (11.08%) employed in teaching roles and 7 (1.72%) in non-teaching positions. Lastly, the BSEd Mathematics program, with 41 graduates, showed 30 (7.39%) employed in teaching positions, and 7 (1.72%) in non-teaching roles.

Overall, out of four hundred six (406) respondents, 71.67% have teaching roles, and 8.87% are in non-teaching positions. This suggests a strong alignment between the respondents' job roles and their college education, as the majority are engaged in teaching positions that correspond with their degrees. Agustin (2021) supports this, stating that when alumni's job roles align with their education, it signifies that the program curriculum is relevant and carefully designed to meet industry standards and demands, particularly in teacher education. This further suggests that the program effectively equips graduates with the necessary skills and competencies for their chosen fields. Additionally, Oraison, Konjarski, and Howe (2019) noted that the development of various attributes and skills in students during their college years is crucial, as these qualities directly influence their readiness for the workplace.

Furthermore, Daguplo, Capili, Estrella and Bano (2019) stated that the knowledge and skills acquired at the university are directly relevant to the graduates' current jobs.

5. Summary of Findings

The study found that 89.21% of Laguna University's College of Education graduates are employed in teaching roles, with BEED graduates leading. Communication skills are the most applied, followed by human relations, IT, and critical thinking. With 71.67% in teaching positions, the findings suggest strong alignment between the curriculum and career outcomes, indicating effective preparation for the teaching profession.

6. Conclusions and Recommendations

In conclusion, the study's findings demonstrate a strong alignment between the respondents' job roles and their college education. The majority of graduates are employed in teaching positions that correspond directly with their degrees, highlighting the effectiveness of the program curricula in meeting the standards and demands of the education sector. The high percentage of graduates in teaching roles, underscores the relevance of the skills and knowledge acquired during their college education. This alignment suggests that the university's programs are successfully equipping students with the competencies needed for their chosen careers, thereby enhancing their employability and readiness for the workplace. These results are consistent with existing research, which emphasizes the importance of curricular alignment in producing positive employment outcomes for graduates.

Based on the findings of the study, the following recommendations are presented to enhance the effectiveness of the programs and improve the alignment of graduates' skills with industry demands:

1. Implement a systematic review process for the College of Education's programs to ensure continued alignment with industry demands and employment trends.
2. Create structured programs for alumni engagement and networking to strengthen connections between current students and graduates in various professions.

Declaration of Conflicting Interests and Ethics

The authors declare no conflict of interest.

References

- Australian Council for Educational Research NEWS. (2021, August 10). *Tracer study: Building Employability for Future Generations*. ACER. <https://www.acer.org/ae/discover/article/tracer-study-building-employability-for-future-generation>
- Achmad, F., Syariffuddien, Z., & Endryanyah, E. (2023, March 19). *Application of tracer study for alumni mapping and reorientation of Graduate Profiles*. Atlantis Press. <https://www.atlantispress.com/proceedings/ijcah-22/125985301>
- Agustin, C. (2021, September). *EMPLOYABILITY TRACER STUDY OF THE BACHELOR OF SCIENCE IN LEGAL MANAGEMENT GRADUATES OF CAGAYAN STATE UNIVERSITY*. Garph. <https://garph.co.uk/IJARMSS/Sep2021/G-2924.pdf>
- Ahearn, C. E. (2021). Planning for College and Careers: How Families and Schools Shape the Alignment of Postsecondary Expectations. *Sociology of Education*, 94(4), 271-293. <https://doi.org/10.1177/00380407211039272>
- Almendarez, L. (2010). *Human capital theory: Implications for educational development*. Human Capital Theory: Implications for Educational Development. <https://global.uwi.edu/sites/default/files/bnccde/belize/conference/papers2010/almendarez.html>
- Bisio, K. (2022, December 22). *15 reasons why college is important for your career*. MSU Denver. <https://www.msudenver.edu/15-reasons-why-college-is-important-for-your-career/>
- Casanova, V., & Paguia, W. (2022). *Employability and job performance of graduates of ...* ERIC - Education Resources Information Center. <https://files.eric.ed.gov/fulltext/EJ1345169.pdf>
- Chen, I.C., Rocha-Beverly, C. & Schneider, B. (2021) Alignment of educational aspirations and career plans in high school with Mobile app technology. *Educ Inf Technol* 26, 1091–1109 (2021). <https://doi.org/10.1007/s10639-020-10296-z>
- Cheng (2021), Investigating the Effect of Alignment Between College Major and Current Occupation on Life Satisfaction, *Proceedings of the 2021 4th International Conference on Humanities Education and Social Sciences (ICHESS 2021)*, 2003-2006, <https://doi.org/10.2991/assehr.k.211220.343>
- Cheng, M., Adekola, O., Albia, J., & Cai, S. (2021). *Employability in higher education: A review of key stakeholders' Perspectives*. Higher Education Evaluation and Development. <https://www.emerald.com/insight/content/doi/10.1108/HEED-03-2021-0025/full/html>
- Commonwealth of Learning. (2019). *Understanding Employability*. <https://oasis.col.org/>
<https://oasis.col.org/server/api/core/bitstreams/16c0d293-4485-4e1c-97a3-beafccf1b43/content>

- Cordero, T. (2024, September 6). *Ph unemployment rises to 2.38m in July 2024 as fresh grads seek jobs*. GMA News Online. <https://www.gmanetwork.com/news/money/economy/919526/fresh-grads-push-ph-unemployment-rate-to-2-38m-in-july-2024-psa/story/>
- Cuadra, L., Aure, Ma. R. K. L., & Gonzaga, G. (2019, July). *The Use of Tracer study in improving undergraduate programs in the University*. Research Gate. https://www.researchgate.net/publication/335429907_The_Use_of_Tracer_Study_in_Improving_Undergraduate_Programs_in_the_University
- Daguplo, M. S., Capili, P. L. G., Estrella, A. R. C., & Bano, A. L. (2019). Tracking the employment and employability characteristics of the graduates of the College of Teacher Education. *Asia Pacific Journal of Multidisciplinary Research*, 7(2), 67-74.
- FutureLearn. (2022, October 25). *Updates, Insights, and News from FutureLearn | Online Learning for You*. FutureLearn. <https://www.futurelearn.com/info/courses/career-success/0/steps/21285#:~:text=Employability%20is%3A,the%20community%20and%20the%20economy.%E2%80%9D>
- Hasibuan, A. F., Silaban, S. M., Lubis, F., & Prayogo, R. R. (2022, January 17). *Tracer study exploration of Medan State University graduates*. Atlantis Press. <https://www.atlantispress.com/proceedings/icosiebe-21/125968796>
- Higher Education Professional. (2024, January 30). *What is graduate employability? A guide for leaders and practitioners in UK higher education*. <https://heprofessional.co.uk/edition/what-is-graduate-employability-a-guide-for-leaders-and-practitioners-in-uk-higher-education-release#:~:text=It%20encompasses%20the%20skills%2C%20knowledge,abilities%20relevant%20to%20their%20field>.
- Jorgenson, D. W., & Fraumeni, B. M. (1989). Investment in education. *Educational Researcher*, 18(4), 35-44.
- Karani, A., Miriam, K., & Mironga, J. (2021, March 31). *TEACHING COMPETENCE-BASED AGRICULTURE SUBJECT IN PRIMARY SCHOOLS IN KENYA; A REVIEW OF INSTITUTIONAL PREPAREDNESS*. <https://ijets.org/index.php/IJETS/article/view/5>
- Kenton, W. (2024). *Human capital definition: Types, examples, and relationship to the economy*. Investopedia. <https://www.investopedia.com/terms/h/humancapital.asp>
- Khan Academy (December 1, 2023). What is educational investment? (article). Retrieved from <https://www.khanacademy.org/college-careers-more/financial-literacy/xa6995ea67a8e9fdd:careers-and-education/xa6995ea67a8e9fdd:education-and-earnings/a/educational-investment>
- Kolosova A.I., Rudakov V.N., Roshchin S.Yu. (2020) The Impact of Work in the Profile of the Obtained Specialty on the Salary and Job Satisfaction of University Graduates. *Voprosy Ekonomiki* . 2020;(11):113-132. <https://doi.org/10.32609/0042-8736-2020-11-113-132>

- Lu, B. J. (2024, July 8). *Challenges to improving Filipino graduates' employability* | *Philippine News Agency*. <https://www.pna.gov.ph/index.php/opinion/pieces/905-challenges-to-improving-filipino-graduates-employability>
- Novaliendry, D., & Hakim, N. U. (2023, December 18). *Development of a tracer study information system in senior high school with devops method using python application and Django Framework*. *Jurnal Teknologi Informasi dan Pendidikan*. https://www.academia.edu/90362369/Development_of_A_Tracer_Study_Information_System_In_Senior_High_School_with_Devops_Method_Using_Python_Application_and_Django_Framework?hb-sb-sw=98764975
- Oraison, H., Konjarski, L., & Howe, S. (2019). Does university prepare students for employment? Alignment between graduate attributes, accreditation requirements and industry employability criteria. *Journal of Teaching and Learning for Graduate Employability*, 10(1), 173–194.
- Ordoñez, J. V. D. (2024, October 1). *Ched Eyes Boosting credentials of college graduates*. *BusinessWorld Online*. <https://www.bworldonline.com/the-nation/2024/10/01/625188/ched-eyes-boosting-credentials-of-college-graduates/>
- Patulin, E. P., Degamon, L. S., Borja, E. A., & Vasquez, M. C. S. (2024). Tracer study of education and graduate program alumni (2016–2022) at Surigao Del Norte State University. *Journal of Interdisciplinary Perspectives*, 2(7), 255–268. <https://doi.org/10.69569/jip.2024.0160>
- Philippine Institute for Development Studies. (2020, April). *New College Grads “mismatched” to their jobs*. <https://pids.gov.ph/details/new-college-grads-mismatched-to-their-jobs>
- Psacharopoulos, G., & Patrinos, H. A. (2018, April). *Worldbank*. WorldBank. <https://documents1.worldbank.org/curated/en/442521523465644318/pdf/WPS8402.pdf>
- Suarta, I. M., Suwintana, I. K., Sudhana, I. F. P., & Hariyanti, N. K. D. (2017, September 1). *Employability skills required by the 21st Century workplace: A literature review of labor market demand*. Atlantis Press. <https://www.atlantispress.com/proceedings/ictvt-17/25884538>