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Analysis of Education Student Retention Rates: Basis for Policy Formation

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ABSTRACT

The study addresses the varying retention rates among education students, influenced by multiple factors with the goal of informing policy formulation to enhance student retention at an institutional level. Employing a quantitative archival method, the research analyzes enrollment data and academic records to identify retention trends and conducted interviews with advisers, instructors, and classmates to validate the reasons for the delayed and attrition. It is revealed that academic difficulties, such as failing grades and incomplete grades, are major contributors to student attrition. Socioeconomic factors, financial barriers, and personal factors also play significant roles in students' decisions to discontinue their education. Difference in the retention according to sex suggests the need for sex-specific support policies. Additionally, significant variations in retention rates across different programs are noted, with lower retention in BSED-Math and BEED programs. These results highlight the importance of addressing the unique challenges faced by different student demographics and programs to improve retention rates. This underscores the necessity of comprehensive support systems and tailored interventions to effectively support all students. By implementing policies that address financial, academic, and personal challenges, institutions can create a more supportive environment conducive to student success.

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KEYWORDS:

Education students, retention, academic difficulties, intervention program

I. INTRODUCTION

Student retention is a critical metric for educational institutions in reflecting their ability to engage and support their students. At Northeastern College, understanding the retention rates of education students is crucial in developing policies that ensure their academic success and well-being.

The College of Education is one of the first colleges established at Northeastern College since its founding in 1941. It offers two programs, the Bachelor of Elementary Education (BEED) and Bachelor of Secondary Education (BSED) with majors in English, Filipino, Mathematics and Sciences. Since the introduction of the two programs, many curriculum revisions have been done. The most recent major revision is based on CMO 74 S. 2017 (BEED) and CMO no. 75 s. 2017 (BSED). This is in preparation of the first batch of Senior High School graduates enrolling in college.

The institution has observed varying retention rates among education students. Several factors have been as reasons for their discontinuation of education. Factors such as financial difficulties (Aina, et. al., 2023; Ashraf et al., 2024) evidenced by unaffordable tuition fees, lack of access to credit, and insufficient financial aid (Ashraf et al., 2024; Cardak & Vecci, 2016; Stinebrickner & Stinebrickner 2008; Wekullo, 2022). Other factors include socioeconomic factors (Aina et al., 2021; Gebretekle & Goshu, 2019; Núñez-Hernández & Buele, 2023; Valencia Quecano et al., 2024), academic factors (Ablian et al., 2023; Hwang & Lee, 2022; Nurmalitasari et al., 2023; Paz, 2023), and personal factors (Aldahmashi et al., 2021; Kim, 2023; Oreški et al., 2016).

A literature review of Gonçalves et al. (2024) identified three main research fronts after analyzing 125 articles from 2014-2022, which are: actions by higher education to reduce dropout rates, activities developed for student success, and understanding factors that lead to student persistence. To inform policy formulation aimed at enhancing student retention in an institutional level, it is essential to conduct a study focused on understanding the factors contributing to student retention and attrition (Bechaida, 2023; Pitas et al., 2023; Ruegg, 2023).

Northeastern College is yet to conduct research regarding retention rate among students of the teacher education

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programs. To address this gap in knowledge and to create effective retention policies, a detailed analysis of these rates in the College of Education is necessary.

This study analyzes the retention rates of education students over the past three academic years: AY 2018-2019, AY 2019-2020, and AY 2020-2021. It aims to identify the retention rates based on the year of enrollment, biological sex, and program specialization. It also seeks to classify student retention using the same criteria and understand the factors contributing to students not graduating on time or discontinuing their studies.

The significance of this study lies in its potential to inform and develop policies aimed at improving student retention at Northeastern College. In understanding the reasons of students discontinuing their education would help the institution to address the underlying issues. Ensuring their success is not only crucial for the students but also for the larger educational foundations that built this institution.

II. METHODS

The study used a quantitative archival method to analyze student retention rates in the College of Education. Enrollment data from the study period were examined, focusing on academic records of students who experienced delays in graduation or dropped out. Graduating students were cross-checked with the Registrar's list to confirm program completion. Lists of graduates were also verified. Interviews with advisers, instructors, and classmates were conducted to validate reasons for delayed graduation or dropout.

III. RESULTS AND DISCUSSION

The findings of this study provide a thorough analysis of the enrollment data, graduation records, interviews over the past three academic years.

Table 1. Retention Rate as to Sex

Sex	Enrolled	Graduated/ continuing	Rate of Retention
Male	123	72	58.54
Female	435	284	65.29
Total	**558**	**356**	**63.80**

Table 1 provides the retention rate of students according to sex. Female have higher enrollment (435) and higher retention rate (65.29%) against male 123 enrolled and 58.54% retention rate.

There is a gender gap in student retention and dropout rates, with males showing a higher propensity to drop out and females demonstrating a higher retention rate (Atzeni et al., 2022; Salim et al., 2022; Zengin, 2021; Zewotir and North 2015). However, a study from the Philippines by Patacsil (2020) related to RA 10931 or the Universal Access to Quality Tertiary Education Act, indicates that gender is not a significant predictor.

This result implies that while gender differences in retention and dropout rates exist in globally, policies like RA 10931, might neutralize the differences suggesting that a strong support system and policies must be put in place and tailor interventions to support all students effectively.

Table 2: Retention Rate as to Program and Specialization

Program and Specialization	Enrolled	Graduated/ continuing	Rate of Retention
BEED	151	90	59.60
BSED-English	188	120	63.83
BSED-Filipino	138	92	66.67
BSED-Math	39	23	58.97
BSED Science	42	31	73.81
Total	**558**	**356**	**63.80**

Table 2 presents retention rates by Program and Specialization. BSED-Science, despite having a low enrolment, boasts the highest retention rate at 73.81%. Next is BSED-Filipino, with 92 out of 138 enrolled students either graduating or continuing, resulting in a retention rate of 66.67%. BSED-English, which has the highest enrolment numbers, shows a retention rate of 63.83%. Lastly, BSED-Math has the lowest retention rate at 58.97%, with 39 initially enrolled students.

Table 3: Retention Rate as to Year Enrolled

Year Enrolled	Enrolled	Graduated & continuing	Rate of Retention
AY 2018-2019	88	63	71.59
AY 2019-2020	280	175	62.14
AY 2020-2021	181	109	60.22
Irregular	9	9	100.00
Total	**558**	**356**	**63.80**

Table 3 illustrates a decreasing trend in retention rates in the three academic years mentioned. In AY 2018-2019, the retention rate was 71.59%, followed by 62.14% in AY 2019-2020 and further to 60.22% in AY 2021-2022. Irregular students, however, maintained a perfect retention rate of 100%, contrasting sharply with the overall downward trend. This indicates that returning students are fully committed to completing their degrees once they decide to comeback.

It is also noted that students enrolled in AY 2019-2020 were affected by the COVID-19 pandemic in the second semester, while AY 2020-2021 was conducted entirely through online asynchronous classes. Issues such as poor internet connection and difficulties in meeting deadlines for required outputs were reported in semi-monthly periodic reports.

Pinatil et al (2022) cited economic challenges during the COVID-19 pandemic such as financial difficulties caused by parents losing their jobs, reduced incomes, which posed a significant challenge in gaining access to the needed technology and internet connectivity, impacting the students' ability to participate in remote education. Socioeconomic challenges and technological barriers became significantly contributed to the dissatisfaction of students (Giray et al., 2022) that led eventually to them dropping out of school (Wangmo et al., 2024).

This analysis highlights the proportion of students who either graduated or continued their studies, providing insights into the effectiveness of retention strategies over the years. The overall retention rate of 63.80%, indicates areas for potential improvement in student support and engagement.

Table 4: Cross Tabulation of Retention Classification and Sex

Classification	Sex		Row Total
	Male	**Female**	
Graduated on Time	57	255	**312**
Extended	9	16	**25**
Continuing	6	13	**19**
Non-continuing	51	151	**202**
Column Total	**123**	**435**	**558**

Table 4 illustrates the cross tabulation of sex and retention classification - students who graduated on time, took an extended period to graduate, are still continuing their studies, or did not complete their studies. It highlights the gender breakdown in each category, providing a clear picture of student retention and graduation timelines within the cohort.

A total of 255 females and males graduated on time. Additionally, 25 students - 9 males and 16 females - had extended their stay but eventually graduated from NC. Of the 202 non-continuing, 51 were male and 151 were female.

Table 5: Cross Tabulation of Retention Classification and Program and Specialization

	Program and Specialization					
Classification	**BEED**	**BSED-English**	**BSED-Fil**	**BSED-Math**	**BSED-Sci**	**Row Total**
Graduated on Time	80	112	81	18	21	**312**
Extended	6	2	5	4	8	**25**
Continuing	4	6	6	1	2	**19**
Non-continuing	61	68	46	16	11	**202**
Column Total	**151**	**188**	**138**	**39**	**42**	**558**

Table 5 displays the retention classifications cross-tabulated by program and specialization. Among the programs, BSED-English had 112 students who graduated on time, followed by BEED with 80 students. These two programs also had the highest number of non-continuing students, with 68 for BSED-English and 61 for BEED. Conversely, BSED-

Filipino students performed better than BSED-English, with 81 students graduating on time and only 46 non-continuing students.

Table 6: Cross Tabulation of Retention Classification and Year Enrolled

Classification	Year Enrolled				Row Total
	2018-2019	2019-2020	2020-2021	Irreg.	
Graduated on Time	57	158	97	-	312
Extended	6	10	-	9	25
Continuing	-	7	12	-	19
Non-Continuing	25	105	72	-	202
Column Total	**88**	**280**	**181**	**9**	**558**

Table 6 provides a comprehensive overview of student retention classifications across different academic years, focusing on programs and specializations. For AY 2018-2019, 57 out of the initial 88 freshmen graduated on time. The number of students who graduated on time increased to 158 in AY 2019-2020, with 97 students graduating on time in AY 2020-2021, resulting in a cumulative total of 312 students graduating on time across these years.

In terms of extended periods, 6 students from AY 2018-2019 required additional time to graduate. In AY 2019-2020, this number remained at 10, and in AY 2020-2021, there were no students requiring extended periods. However, all nine irregular students were classified as extended, bringing the total to 25 students needing extended time to complete their education.

No continuing students were recorded for those who initially enrolled in AY 2018-2019. However, in AY 2019-2020, there were 7 continuing students, and this number increased to 12 in AY 2020-2021, resulting in a total of 19 students who were still in the process of completing their studies at the time of the study.

For non-continuing students, 25 students initially enrolled in AY 2018-2019 did not continue their studies. This number significantly increased to 105 in AY 2019-2020 but then decreased to 72 in AY 2020-2021, resulting in a total of 202 students classified as non-continuing.

Table 7: Factors that Contribute to the Delay in Graduation

Particulars	Frequency	Percent	Rank
1. Failure/Incomplete Grades	11	44.0	1
2. Financial Difficulties	5	20.0	2.5
3. Pregnancy	1	4.0	5
4. Shifter from another program	5	20.0	2.5
5. Transferee	3	12.0	4
Total	**25**	**100.00**	

Of the 25 students classified as Extended, Table 7 shows that failure or incomplete grades (44.0%) are the main factors delaying graduation, followed by financial difficulties (20.0%) and students shifting from other programs to the College of Education. Pregnancy (4.0%) and transferring from other institutions also contribute to delays.

Table 8: Factors that cause students not to finish their studies at NC

Particulars	Frequency	Percent	Rank
1. Delinquency	1	0.50	8.5
2. Dropped due to Poor Grades	97	48.02	1
3. Family Problem/Depression	2	0.99	6.5
4. Financial Difficulties	6	2.97	4
5. Poor Health	2	0.99	6.5
6. Pregnancy/Marriage	5	2.48	5
7. Shifted to another course	43	21.29	3
8. Transferred to Other Institution	45	22.28	2
9. Went Abroad	1	0.50	8.5
Total	**202**	**100.00**	

Table 8 indicates that out of 202 students classified as non-continuing, the primary reason for not completing their education degree at NC was dropping out due to poor grades, with a frequency of 97 (48.02%). The second most common reason was transferring to another institution, which affected 45 students (22.28%). This was followed by shifting to another course, impacting 43 students (21.29%). Other, less common factors included pregnancy/marriage (2.48%), financial difficulties (2.97%), family problems/depression (0.99%), going abroad (0.50%), and delinquency (0.50%).

Academic success is crucial for timely graduation, with failing at least one course in the first semester being a significant predictor of delay (Ojha, 2017; Rocha & Júnior, 2020). Students facing financial difficulties often work, preventing them from enrolling full-time. Financial constraints also significantly impact the duration of students' studies (Letkiewicz et al., 2014; Lin, 2019; Ojha, 2017; Rop & Mibei, 2024; Strayhorn, 2010).

The burden of pregnancy, not pregnancy itself, may delay graduation. Health challenges and support needs impact female students' ability to graduate on time (Dizon-Luna, 2013; Gatbonton, 2021; Tejada, 2023). Course shifting due to a lack of preparedness or discovering new interests extends the time needed to meet new degree requirements (Amir et al., 2015). Transferring to other schools can result in credit loss or the need to retake courses, further delaying graduation (Amoloza & Bautista, 2024).

Based on the findings, it is clear that addressing the unique challenges faced by different student demographics and programs is crucial for improving retention rates. Support systems that target gender disparities, program specific needs, academic challenges, and socioeconomic factors are essential. Formulating comprehensive support mechanisms can ensure the students that the institution would not only focus on their retention but also provide necessary resources and environment for students to succeed academically and successfully.

V. CONCLUSION

The study analyzed the retention rates among education students over three academic years. The findings revealed significant variations in retention rates across different programs, with lower retention rates observed in BSED-Math and BEED programs, and higher retention in BSED-Science. This study also revealed a higher retention rate among female students, highlighting the need for policies that address sex-specific challenges and provide targeted support.

Key factors affecting graduation timelines were identified, including academic challenges, financial difficulties, and students shifting programs. These insights underscore the importance of enhancing academic support services, financial aid, and counseling to help students overcome these barriers. The study pointed out as well the role of socioeconomic and personal factors in student discontinuation, emphasizing the need for comprehensive support systems such as mental health services and career counseling to improve retention rates.

Addressing these identified challenges through targeted policies can improve retention rates and ensure students receive the necessary support to succeed in their academic pursuits, holistically enhancing their educational experience.

VI. RECOMMENDATION

To enhance student retention, sex-specific support systems should be implemented, including safe spaces and programs focused on gender development. Targeted interventions are necessary for the BSED-Math and BEED programs, with further investigations to address specific challenges faced by their students.

Given that academic challenges are significant predictors of delayed graduation, the school should enhance academic support services, such as tutoring, study groups, and workshops. Addressing financial difficulties, which are a major factor, requires increased access to financial aid, scholarships, and affordable tuition options to alleviate the financial burden on students.

Career counseling is crucial for students who remain indecisive in their career choices, and additional support should be provided to pregnant students to help them navigate the constraints and risks associated with pregnancy. By implementing these measures, the institution can create a more supportive environment conducive to student success.

REFERENCES

1. Ablian, J. D., Yabut, M. D., Tolentino, N. B., Serial, R. D., Sarmiento, E. K., Caras, K. P., ... & Dragon, C. D. (2023). Free higher education retention policy of a local college in the Philippines: Insights of disqualified students. Journal of Research, Policy & Practice of Teachers and Teacher Education, 13(1), 118-133. DOI: 10.37134/jrpptte.vol13.1.9.2023
2. Aina, C., Baici, E., Casalone, G., & Pastore, F. (2022). The determinants of university dropout: A review of the socio-economic literature. Socio-Economic Planning Sciences, 79, 101102, DOI: 10.1016/J.SEPS.2021.101102
3. Aina, C., Mussida, C., & Lombardi, G. (2023). Are Business and Economics Alike?. Italian Economic Journal, 9(2), 557-585.
4. Aldahmashi, T., Algholaiqa, T., Alrajhi, Z., Althunayan, T., Anjum, I., & Almuqbil, B. (2021). A Case-Control Study on Personal and Academic Determinants of Dropout among Health Profession Students. Higher Education Studies, 11(2), 120-126, DOI: 10.5539/HES.V11N2P120
5. Amir, K., Manteufel, R., Peterson, L. (2015). What delays student graduation. American Society for Engineering Education. 26.1719.1-26.1719.19
6. Amoloza, E., & Bautista, M. (2024, May). Addressing Student Attrition in An Open Distance

E-Learning Undergraduate Program: The Case of The University of The Philippines Open University Bachelor of Arts in Multimedia Studies Program. International Journal of Social Science and Economic Research, 9(5), 1474-1501. DOI: /10.46609/IJSSER.2024.v09i05.011

7. Ashraf, Muhammad & Riaz, Muhammad. (2024). Investigating the Causes of Dropout in BS Programs: Insights From Public Sector Universities. Journal of Policy Research. 10. 559-567. 10.61506/02.00269.
8. Atzeni, G., Deidda, L. G., Delogu, M., & Paolini, D. (2022). Drop-Out Decisions in a Cohort of Italian Universities. In Teaching, Research and Academic Careers: An Analysis of the Interrelations and Impacts (pp. 71-103). Cham: Springer International Publishing. DOI: 10.1007/978-3-031-07438-7_4
9. Bechaida, M.A.A. (2023) Factors Affecting Student Retention and Attrition, International Journal of Scientific and Research Publications (IJSRP) 13(05) (ISSN: 2250-3153), DOI: 10.29322/IJSRP.13.05.2023.p13730
10. Cardak, B. A., & Vecci, J. (2016). Graduates, dropouts and slow finishers: The effects of credit constraints on university outcomes. Oxford Bulletin of Economics and Statistics, 78(3), 323-346, DOI: 10.1111/OBES.12119
11. Dizon-Luna, S. R. T. (2013). Failure to stay in school: A study on female adolescent dropouts. Researchers World, 4(2), 81.
12. Gatbonton, R. R. G. (2021). Educational Experiences of Adolescent Mothers while Studying College in the Philippines. IAFOR Journal of Education, 9(1), 41-58. DOI: 10.22492/IJE.9.1.03
13. Gebretekle, T. K., & Goshu, A. T. (2019). Bayesian analysis of retention and graduation of female students of higher education institution: the Case of Hawassa University (HU), Ethiopia. American Journal of Theoretical and Applied Statistics, 8(2), 47-66, DOI: 10.11648/J.AJTAS.20190802.12
14. Giray, L., Gumalin, D., Jacob, J., & Villacorta, K. (2022). Exploring the online learning experience of Filipino college students during COVID-19 pandemic. Jurnal Ilmiah Peuradeun, 10(1), 227-250. DOI: 10.26811/peuradeun.v10i1.691
15. Gonçalves, G. S., Serra, F. A. R., Storopoli, J. E., Scafuto, I. C., & Rafael, D. N. (2024). Undergraduate Student Retention Activities: Challenges and Research Agenda. SAGE Open, 14(3), DOI:10.1177/21582440241249334
16. Hwang, S., & Lee, J. Y. (2022). The Student Determinants of College Non-completion. Asia-Pacific Journal of Business, 13(3), 361-373, DOI: 10.32599/apjb.13.3.202209.36
17. Kim, J. (2023). What do they suffer? An examination of personal, program, and environmental factors impacting nontraditional undergraduate students' dropout. Journal of College Student Retention: Research, Theory & Practice, DOI: 10.1177/15210251231210494
18. Letkiewicz, J., Lim, H., Heckman, S., Bartholomae, S., Fox, J. J., & Montalto, C. P. (2014). The path to graduation: Factors predicting on-time graduation rates. Journal of College Student Retention: Research, Theory & Practice, 16(3), 351-371. DOI: 10.2190/CS.16.3.C
19. Lin, Y. (2019). Why do some students delay college enrollment? Does it matter?. Columbia University. DOI: 10.7916/D8-8SJB-VR05
20. Núñez-Hernández, C., & Buele, J. (2023). Factors Influencing University Dropout in Distance Learning: A Case Study. Journal of Higher Education Theory & Practice, 23(14), DOI: 10.33423/jhetp.v23i14.6379
21. Nurmalitasari, Long, Z.A., Mohammad, F.M.N. (2023). Factors Influencing Dropout Students in Higher Education. Education Research International, 2023(1), 1-13 DOI: 10.1155/2023/7704142
22. Ojha, T. (2017). Prediction of Graduation Delay Based on Student Characterisitics and Performance.
23. Oreški, D., Hajdin, G., & Klicek, B. (2016). Role of personal factors in academic success and dropout of IT students: Evidence from students and alumni. TEM Journal, 5(3), 371. DOI: 10.18421/TEM53-18
24. Patacsil, F. F. (2020). Survival analysis approach for early prediction of student dropout using enrollment student data and ensemble models. Universal Journal of Educational Research, 8(9), 4036-4047. DOI: 10.13189/UJER.2020.080929
25. Paz, H. R. (2023). College Dropout Factors: An Analysis with LightGBM and Shapley's Cooperative Game Theory. arXiv preprint arXiv:2311.06260, DOI: 10.48550/arxiv.2311.06260
26. Pinatil, L., Abojon, J.A., Lawas, M.J. (2022). Dropped out Students in the State-Run Basic Education Institution in the Philippines during the Covid 19 Pandemic: a phenomenological Study. International Journal of Science and Management Studies, 303-309. DOI: 10.51386/25815946/ijsms-v5i2p126
27. Pitas, N., Antwi, G., Haines, S., & Banerjee, P. (2023). Student Retention: An Integrated Application of the Theory of Planned Behavior and the Campus Social Environment. Journal of College Student Retention: Research, Theory & Practice, DOI: 10.1177/15210251231207607

28. Rocha, B. A. D. S. R., & Toledo Júnior, A. (2020). Predictive factors of graduation delay in a medical program: a retrospective cohort study in Brazil, 2010-2016. Revista brasileira de educação médica, 44, e001. DOI: 10.1590/1981-5271V44.1-20190205.ING
29. Rop, W.C., & Mibei, E. (2024). Factors Affecting Completion of Graduate Studies in Public Universities: A Case Study of University of Kabianga, Kenya. International Journal of Research and Innovation in Social Science, VIII(VI):2153-2167. DOI: 10.47772/ijriss.2024.806162
30. Ruegg, R. (2023). Retaining Students to Completion: A Qualitative Study of Institutional Factors. Journal of University Teaching and Learning Practice, 20(5), 14.
31. Salim, A., Sultana, R., Akhter, S. S., Azim, S. F., Hoshen, M. M., & Islam, M. Z. (2023). Gender disparities in dropping out of high school students and their level of depression. Eastern Medical College Journal, 8(1), 1-5. DOI: 10.3329/emcj.v8i1.66719
32. Stinebrickner, R., & Stinebrickner, T. (2008). The effect of credit constraints on the college drop-out decision: A direct approach using a new panel study. American Economic Review, 98(5), 2163-2184, DOI: 10.1257/AER.98.5.2163
33. Strayhorn, T. L. (2010). Money matters: The influence of financial factors on graduate student persistence. Journal of Student Financial Aid, 40(3), 1.
34. Tejada, J. A. M. (2023). Academic Performance and Issues of Pregnant Students: Basis for an Intervention Plan. AIDE Interdisciplinary Research Journal, 7, 66-77. DOI: 10.56648/aide-irj.v7i1.102
35. Valencia Quecano, L. I., Guzmán Rincón, A., & Barragán Moreno, S. (2024). Dropout in postgraduate programs: a underexplored phenomenon–a scoping review. Cogent Education, 11(1), 2326705, DOI: 10.1080/2331186x.2024.2326705
36. Wangmo, S. (2023). Understanding the Experiences of Dropouts During COVID-19 Pandemic School Closure: A Qualitative Study. Journal of Bhutan Studies, 48, DOI: 10.62104/jbs.02
37. Wekullo, C. S. (2023). Institution Type, Selectivity, and Financial Aid: An Examination of Institutional Factors Influencing First-Time Students Retention in Public Universities. Social Education Research, 1-14, DOI: 10.37256/ser.4120231725
38. Zengin, M. (2021). Investigation of High School Students' Dropout Risk Level. Shanlax International Journal of Education, 9, 59-68. DOI: 10.34293/EDUCATION.V9IS1-MAY.4000
39. Zewotir, T., & North, D. (2015). Analysis of attrition and retention rates using the generalized linear model. South African Statistical Journal, 49(2), 259-27