

## Determinants of Electronics Engineering Licensure Examination Success Among Northwest Samar State University Graduates

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Abstract — This study identified the determinants of success in the Electronics Engineering Licensure Examination (ECELE) among graduates of Northwest Samar State University (NwSSU), with the primary goal of proposing a targeted professional development plan. A descriptive-correlational research design was employed to gather and analyze data from 30 Bachelor of Science in Electronics Engineering (BSECE) graduates through structured survey questionnaires. Findings showed that the majority of respondents were male (63.34%) and belonged to the age group of 30 to 39 years (63.34%). The licensure examination passing rate among the participants stood at 66.67%, which is notably higher than the national average of 42.5% and the regional average of 38.7%, based on the gathered data, suggesting that NwSSU graduates perform relatively well in the ECELE. No statistically significant relationship was observed between the graduates' demographic profiles and either their perceived influential factors or their actual licensure outcomes. Nonetheless, the analysis revealed significant positive correlations between licensure outcomes and three key variables: academic factors (r = 0.437, p = 0.016), institutional factors (r = 0.382, p = 0.037), and student-related factors (r = 0.451, p = 0.012). Faculty-related factors did not show a statistically significant relationship (r = 0.208, p = 0.270). In response to these findings, a professional development plan was proposed. This plan includes curriculum alignment, institutional support enhancement, development of student self-regulatory strategies, faculty involvement in review preparation, financial support measures, and stress management initiatives. The study contributes an evidence-based approach to improving ECELE performance and supporting electronics engineering graduates' professional growth.

Keywords — Licensure Examination, Electronics Engineering, Academic Factors, Institutional support, Student Self-regulation, Professional Planning

#### I. Introduction

The journey toward professional excellence in the field of electronics engineering is marked by passing the Electronics Engineering Licensure Examination (ECELE). The International Engineering Alliance (IEA) reported that between 2018 and 2023, the average international passing rate for engineering licensure examinations ranged from 54 to 68 percent, with electronics engineering consistently falling in the lower percentiles compared to other engineering disciplines (Maaliw, 2021). This trend highlighted the challenging nature of



electronics engineering licensure and the need to identify factors that contributed to examination success. Countries with higher passing rates implemented comprehensive preparatory programs that addressed both technical competence and examination strategies, pointing toward the multifaceted nature of licensure examination success.

In the Philippines, the Professional Regulation Commission (PRC) data indicated that the national passing rate for the ECELE from 2018 to 2023 averaged at 42.5 percent, significantly lower than the global average (Mariano & Valenzuela, 2021). This statistic revealed a concerning gap in the preparation and performance of Filipino electronics engineering graduates. Reports identified curriculum alignment, faculty expertise, institutional resources, and student preparation strategies as critical factors that required attention to improve licensure examination outcomes nationally (Aniley, 2022). These observations aligned with international findings but needed to be contextualized within the Philippine educational system.

Samar Province, particularly, experienced more pronounced challenges with ECELE performance. The provincial average passing rate stood at 35.2 percent for the period 2018-2023, with significant variations among the higher education institutions offering electronics engineering programs (Flores-Cohaila, 2022). Northwest Samar State University (NwSSU), despite being a prominent educational institution in the province, reported passing rates that fluctuated during the same period, indicating inconsistency in graduate performance. The university administration recognized the need for a systematic investigation into the factors influencing ECELE success among its graduates to develop targeted interventions that would address specific areas of concern.

Previous studies on licensure examination success across various disciplines identified multiple determinants, including academic factors, institutional support, faculty qualifications, curriculum alignment, and student-related characteristics. However, a comprehensive investigation specific to ECELE success among NwSSU graduates had not been conducted. This research gap presented an opportunity to develop a context-specific understanding of the determinants that influenced ECELE performance in a provincial state university setting, which could inform strategic initiatives to enhance graduate outcomes. The findings of this study provided valuable insights for multiple stakeholders in the electronics engineering education ecosystem. For Northwest Samar State University, the identified determinants of ECELE success guided curriculum development, faculty enhancement programs, institutional resource allocation, and student support services tailored to the specific needs of electronics engineering students. For students and graduates, understanding these determinants helped in developing more effective preparation strategies for the licensure examination. For policy makers and educational administrators at the regional and national levels, the results informed policy formulations and program accreditation standards that promoted quality assurance in electronics engineering education. Additionally, the professional development plan derived from the study served as a model for other provincial state universities facing similar challenges in improving licensure examination performance in electronics engineering and related disciplines.

This study was conducted during School Year 2024-2025 at Northwest Samar State University and involved ECELE takers from 2003 to the present. The research included a minimum of 30 respondents, acknowledging the limitation that not all graduates could be traced due to geographical dispersion, outdated contact information, and other logistical constraints. The study operated within the framework of Commission on Higher Education (CHED) Memorandum No. 37, Series of 2012, which established the policies and standards for Bachelor of Science in Electronics Engineering program; CHED Memorandum No. 46, Series of 2012, which outlined the policy-standard to enhance quality assurance in Philippine higher education; CHED Memorandum No. 101, Series of 2017, which provided guidelines for the implementation of CMO 46; and CHED Memorandum No. 86, Series of 2017, which detailed the specific requirements for Level III accreditation for engineering programs. The research was limited to analyzing determinants related to academic, faculty, institutional, and student-related factors, and did not explore economic, political, or broader societal factors that might influence licensure examination performance. Additionally, the study relied on retrospective self-reporting from graduates regarding their experiences and preparation strategies, which might have introduced recall bias in the data collection process.

The identified research gap and the pressing need to improve ECELE performance among NwSSU graduates necessitated a comprehensive investigation into the determinants of ECELE success. From 2018 to 2023, NwSSU recorded fluctuating ECELE passing rates, at times dipping below both the national and regional average, which underscored the inconsistency in graduate performance and the urgent need for data-driven interventions. Situated in a province where access to technological resources and faculty development opportunities remains limited, NwSSU faces unique challenges that impact the preparedness of its electronics engineering graduates. By identifying these determinants and understanding their relationships with graduate profiles and licensure outcomes, the study provided a foundation for developing a targeted professional development plan that addressed specific areas of concern and leveraged existing strengths to enhance the performance of future graduates in the Electronics Engineering Licensure Examination.

#### **Literature Review**

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This section presents the related studies and literature aimed at providing a deeper and clearer understanding of the variables involved in the present study. The studies and literature were taken from both unpublished and published materials and from various sources such as books, journals, online sources, and other reference materials.

**Conceptual Literature.** Research indicates that demographic factors play a significant role in determining success in licensure examinations. Demographic characteristics including age, sex, and civil status interact with academic performance to influence examination outcomes, with younger graduates often performing better in technical subjects, while mature students demonstrated stronger performance in theoretical components (Sawey-Ognayon & Afalla, 2022).



The year of graduation also has a significant impact on examination success, with more recent graduates showing improved performance due to curriculum enhancements and stronger alignment with examination requirements (Igdon et al., 2024).

Academic performance throughout the undergraduate program serves as a strong predictor of success in licensure examinations. Grade point average in core engineering subjects, particularly in the final two years of study, strongly correlates with examination success, with performance in advanced electronics courses and laboratory work having the most significant predictive value (Nebrida et al., 2024). Additionally, verbal reasoning abilities, mathematics proficiency, professional course ratings, and electrical circuits course performance have been identified as the most reliable predictors of success, emphasizing the importance of early identification of at-risk students to implement targeted interventions (Maaliw, 2021).

The quality and competence of faculty members significantly influence student preparation for licensure examinations. Faculty qualifications, teaching experience, and industry exposure are critical determinants of student success, with institutions having faculty members who possess extensive practical experience and advanced degrees in relevant fields consistently producing graduates with higher licensure examination pass rates (Cabahug, 2023). Furthermore, effective faculty development programs and regular instructional supervision positively impact teaching quality and, subsequently, students' licensure examination outcomes (Salendab, 2021).

Institutional support systems and resources contribute significantly to student success in licensure examinations. Accreditation status strongly correlates with licensure examination performance, with institutions having higher levels of accreditation typically providing better learning resources, facilities, and review programs that enhance student preparation for examinations (Mariano & Valenzuela, 2021). Learning environment, availability of review materials, and institutional review programs are among the key institutional factors that influence examination success, emphasizing the importance of creating a conducive learning environment to mitigate examination stress and enhance performance (Tulud et al., 2023).

Student motivation emerges as a critical factor in licensure examination success across multiple studies. Intrinsic motivation has been found to be the strongest predictor of examination performance among university students, with students having strong internal drive to achieve professional goals demonstrating greater persistence in examination preparation and higher resilience when facing challenges (Briones, 2021). Students' self-assessment of preparedness significantly correlates with their actual performance, emphasizing the importance of building student confidence through comprehensive review programs and regular assessment of readiness for the examination (Villaflores, 2023).

Emotional and psychological factors play a crucial role in determining students' performance in high-stakes examinations such as licensure tests. Emotional intelligence significantly predicts examination success, with students having higher emotional quotient



demonstrating better stress management, increased focus during preparation, and enhanced performance under examination conditions (Puertos & Canay, 2022). Examination anxiety, insufficient emotional support, and psychological pressure have been identified as significant barriers to success, highlighting the need for psychological preparation alongside academic review to enhance overall examination performance (Albina et al., 2021).

The relationship between academic profile and licensure examination outcomes is wellestablished in the literature. Strong correlations exist between pre-admission qualifications, academic performance throughout the program, and eventual licensure examination success, suggesting that comprehensive profiling of students could enable early identification of potential high-performers and those requiring additional support (Robiños et al., 2023). Performance in mock examinations has been confirmed as a reliable predictor of actual examination outcomes, emphasizing the value of diagnostic assessments in identifying specific knowledge gaps that could be addressed prior to the actual examination (Fiscal & Roman, 2022).

Curriculum design and alignment with licensure examination requirements significantly impact student outcomes. Curriculum alignment with examination content specifications is a critical factor in determining student success, highlighting the importance of regular curriculum review and updating to ensure continued relevance to evolving examination requirements (Irene, 2023). Furthermore, curriculum design, sequencing of courses, and integration of examination-relevant content throughout the program significantly influence examination outcomes, emphasizing the value of embedding examination preparation within the curriculum rather than treating it as a separate activity (Dimas, 2024).

Diverse methodological approaches have been employed to predict licensure examination success, offering insights into effective research strategies. Advanced statistical techniques help identify the most significant predictors among a comprehensive set of variables, demonstrating the value of rigorous quantitative methods in developing predictive models that could inform targeted interventions (Flowers et al., 2021). Systematic reviews of predictors of success across multiple studies identify consistent patterns of predictors, highlighting the importance of considering both academic and non-academic factors in comprehensive models of examination success (Park et al., 2021).

A holistic approach to preparation emerges as essential for licensure examination success. The integration of content knowledge, pedagogical skills, and examination techniques in preparation programs is crucial, demonstrating that successful preparation extends beyond content review to include familiarization with examination format, time management strategies, and effective response techniques (Fuente, 2021). Comprehensive preparation programs addressing both technical knowledge and examination strategy significantly enhance performance (Micabalo & Cruspero, 2022). Additionally, integrating examination-specific preparation with broader educational objectives throughout the program of study has been highlighted as an important factor in examination success (Camañero et al., 2024).



**Research Literature.** Teckney et al. (2023) investigated the moderating effect of qualifying examinations on the relationship between preparation and performance of Certified Public Accountant Licensure Examination (CPALE) takers at De La Salle University-Manila. Their study employed a quantitative causal research design with purposive sampling, involving 64 respondents from two different cohorts – one that underwent qualifying examinations and another that did not. The researchers utilized various statistical tools including Independent Samples t-test, Mann-Whitney U test, and Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the data. Their findings revealed no statistically significant differences in motivation, study habits, and examination performance between students who took qualifying examinations and those who did not, suggesting that qualifying examinations had minimal impact on licensure examination outcomes.

Asuncion et al. (2023) explored the effectiveness of pure online integrating courses on CPA board examination performance during the COVID-19 pandemic at De La Salle University. The researchers employed a causal research design with purposive sampling, focusing on Lasallian CPAs who had undergone pure online integrating courses and successfully passed the board examination during the pandemic. Their findings indicated that among various curriculum aspects, only content coverage and faculty factors had significant effects on CPA board examination performance. Interestingly, the study concluded that pure online integrating courses did not have a significant overall effect on board examination performance, despite the positive evaluations of course coverage, materials, faculty, delivery, and assessment.

Alfonso et al. (2023) conducted an explanatory sequential mixed methods study to investigate the self-perceived licensure examination preparedness of graduating accountancy students under non-traditional learning at De La Salle University-Manila. The researchers collected data through surveys followed by interviews, analyzing the results using descriptive statistics and thematic analysis, respectively. Their findings revealed that graduating Bachelor of Science in Accountancy students perceived themselves to be only moderately prepared for the upcoming Licensure Examination for Certified Public Accountants. The study identified personal motivation, timing, curriculum design, learning setup, professors, and administrators and course coordinators as perceived common factors influencing examination preparedness.

Dela Peña et al. (2022) conducted an alignment study examining the Bachelor of Science in Accountancy program in the Philippines in relation to International Education Standards (IESs) and the Certified Public Accountant Licensure Examination (CPALE). The researchers employed both quantitative and qualitative methods, analyzing curriculum documents and conducting interviews with stakeholders from regulatory bodies, professional organizations, and higher education institutions. Their findings revealed a moderate overall alignment between the BSA Program, the IESs, and the CPALE, with specific variations in alignment attributed to resource limitations, curriculum delivery differences, and the practical application of content. The study



highlighted important implications for regulatory bodies, professional organizations, and higher education institutions in addressing curriculum gaps.

Gaud (2019) investigated factors affecting the outcome of the National Council Licensure Examination (NCLEX-RN) among nontraditional learners from associate degree nursing programs. The study employed a quantitative, non-experimental design using correlational and regression analysis to test hypotheses about demographic, social, and psychological factors influencing examination outcomes. Using convenience sampling, the researcher collected data through a demographic questionnaire and the Student Perception Appraisal-Revised 2 (SPA-R-2) tool. The findings revealed statistically significant correlations between various social and psychological factors and NCLEX-RN outcomes, with the regression model identifying employment responsibilities, nursing professional events, and college library services as statistically significant predictors of examination success or failure.

Gesun (2021) developed and tested a model of thriving for engineering students, employing an exploratory multiphase research design. The study defined engineering thriving as "the process in which engineering students develop and refine competencies that allow them to function optimally in engineering programs." Through a scoping literature review of 68 papers, a Delphi process with 47 experts, and structural equation modeling using data from over 2,000 undergraduate engineering students, the researcher developed a holistic model of engineering thriving that included internal competencies, external outcomes, and contextual factors. The findings indicated that gratitude was one of the most important competencies for engineering student thriving, and that the holistic model accounted for significant variance in students' belongingness and perceptions of faculty caring.

#### **II.** Methodology

This study employed a descriptive-correlational research design to identify the determinants of Electronics Engineering Licensure Examination (ECELE) success among Northwest Samar State University graduates. The descriptive component enabled the researcher to gather comprehensive data about the profile of BSECE graduates, including age, sex, civil status, and year graduated, and to identify the factors that influenced performance in the ECELE across academic, faculty, institutional, and student-related dimensions. The correlational aspect allowed for examination of relationships between graduate profiles and perceived factors influencing performance, between graduate profiles and licensure outcomes, and between perceived factors and licensure outcomes (Burns, 2019). This provided a systematic method for describing the characteristics of the graduates and the factors influencing their examination performance, while also allowing statistical analysis of relationships between variables. This design aligned perfectly with the research problems, which sought to profile BSECE graduates, identify factors influencing ECELE performance, examine relationships between profiles and



influencing factors, analyze relationships between profiles and licensure outcomes, and investigate relationships between influencing factors and licensure outcomes (Miksza & Elpus, 2018).

The sample consisted of BSECE graduates, encompassing demographic information such as age, sex, civil status, and year graduated, who had taken the ECELE after completing their degree at Northwest Samar State University. These graduates possessed firsthand experience with the examination process and could provide valuable insights into the factors that influenced their preparation and performance. The sample included both passers and non-passers of the examination, allowing for a comparative analysis of factors that may have contributed to different outcomes. Total enumeration was attempted for all 43 ECELE takers since 2003. However, several limitations affected the final sample size. Some graduates had relocated to distant locations without updated contact information, making them untraceable despite extensive efforts through alumni networks and social media platforms. Additionally, several graduates who were contacted declined to participate in the study for various personal and professional reasons. These constraints resulted in a final sample of 30 respondents, representing approximately 70 percent of the total population of ECELE takers from the university since 2003.

Respondents were approached personally or through online by the researcher with a formal letter of consent and endorsement from Northwest Samar State University. The research objectives, questionnaire content, and confidentiality measures were thoroughly explained to each potential participant. Participation was entirely voluntary, and respondents were informed of their right to withdraw from the study at any point. Ethical considerations regarding privacy, confidentiality of responses, and informed consent were strictly observed throughout the data collection and analysis processes.

The first part of the survey questionnaire collected demographic information from respondents, including age, sex, civil status, and year graduated. These demographic variables constituted the graduate profile components identified in the first research question and served as the basis for examining relationships with other variables in the study. The second part of the questionnaire focused on factors influencing performance in the ECELE, which were categorized into four dimensions: academic factors, faculty factors, institutional factors, and student-related factors. Academic factors included items related to Grade Weighted Average, participation in licensure examination review programs, and assessment of the Electronics Engineering curriculum structure. Faculty factors encompassed items measuring satisfaction with instructor qualifications, effectiveness of teaching methods, and availability of additional support from instructors. Institutional factors examined the availability and quality of learning resources and the effectiveness of support systems provided by the university. Student-related factors, which had the most extensive coverage, explored study habits, financial constraints, stress management, time management, peer and family support, self-confidence, motivation, and overall preparedness for the examination. The third part assessed licensure examination outcomes, determining whether respondents passed the ECELE and identifying possible reasons for failure among those who did



not pass. The fourth part solicited respondents' perspectives on which factors had the greatest influence on their examination performance and which areas should be prioritized for improvement to enhance licensure examination outcomes for future students.

The questionnaire underwent a rigorous validation process, and it was pilot-tested with a small group of BSECE graduates who were not part of the final sample to ensure clarity of instructions, appropriateness of items, and logical flow of the instrument. Revisions were made based on feedback from the pilot test before the questionnaire was finalized for administration to the study participants. The reliability analysis of the research instrument demonstrated strong internal consistency across all dimensions.

#### **III. Results and Discussion**

Based on the comprehensive data collected through surveys with Bachelor of Science in Electronics Engineering (BSECE) graduates, the following results were analyzed using appropriate statistical methods to identify significant determinants of Electronics Engineering Licensure Examination (ECELE) success.

The predominance of respondents in the 30-39 age bracket suggests that most BSECE graduates from Northwest Samar State University have been in the professional field for several years after graduation. The moderate representation (33.33%) of younger respondents (20-29 years old) provides valuable perspectives from more recent graduates. The minimal representation of respondents aged 40 and above (3.33%) suggests that fewer BSECE graduates from earlier cohorts are included in the sample. This limited representation of older graduates might be attributed to the geographical dispersion and contact information constraints acknowledged in the study's limitations.

Within the framework of Astin's Input-Environment-Output Model, as described by Xu et al. (2019), the gender distribution represents an important input characteristic that may interact differentially with the institutional environment to produce varied outcomes in licensure examination performance. Analyzing how male and female graduates respond to the same educational environment may provide valuable insights for developing more inclusive and effective educational approaches to enhance ECELE outcomes for all students.

In civil status, the data reveals that a majority of the respondents (60.00%) are single, while a substantial proportion (40.00%) are married. This distribution provides insights into the personal circumstances of BSECE graduates that may influence their professional development and licensure examination experiences.

The distribution of respondents based on their year of graduation reveals that the majority of the respondents (53.33%) graduated between 2013 and 2017, while 30.00% graduated more



recently between 2018 and 2023, and 16.67% graduated in the earlier period of 2008 to 2012. This distribution provides a cross-sectional representation of graduates spanning approximately 15 years, offering perspectives from different academic generations.

#### **Factors Influencing ECELE Performance**

This shows the factors influencing ECELE performance in terms of academic preparation, faculty support, institutional support, and student-related factors.

Factors	Frequency	Percentage
Academic preparation	11	36.67
Faculty support	2	6.66
Institutional support	7	23.33
Student-related factors	10	33.34

#### Table 1. Factors Influencing ECELE Performance

Table 1 presents respondents' perceptions regarding the factors with the greatest influence on ECELE performance and the factors that should be prioritized to improve the ECELE performance of future students. This assessment provides valuable insights into which aspects of preparation are perceived as most critical by graduates who have experienced the examination process. The data on factors with the greatest influence on ECELE performance reveals that academic preparation was cited by the largest percentage of respondents (36.67%), closely followed by student-related factors (33.34%). Institutional support was identified by 23.33% of respondents, while faculty support was considered most influential by only 6.66%. This distribution indicates that graduates perceive academic preparation and personal factors as the primary determinants of examination success, with institutional support playing a secondary role and faculty support being less critical. This finding aligns with Nebrida et al.'s (2024) observation in the literature review that academic performance throughout the undergraduate program serves as a strong predictor of success in licensure examinations, with grade point average in core engineering subjects strongly correlating with examination success. It also corresponds with Cancel's (2021) finding, cited in the research literature, that personal factors such as study habits were ranked as most highly associated with passing licensure examinations.

# Relationship between the Factors that Influence ECELE Performance and the Profile of the Respondents

In the point-biserial correlation between sex and civil status of the respondents and perceived factors that influence ECELE performance, the results reveal no significant relationships between sex and any of the perceived factors: academic (r = 0.176, p = 0.352), faculty (r = 0.205, p = 0.277), institutional (r = 0.134, p = 0.480), and student-related factors (r = 0.198, p = 0.294). These findings indicate that male and female BSECE graduates from Northwest Samar State University do not significantly differ in how they perceive the importance or influence of various factors on their ECELE performance.

The ETA correlation between age groups of the respondents and their perceived factors that influence ECELE performance. The results show no significant relationships between age and any of the perceived factors: academic ( $\eta = 0.245$ , p = 0.412), faculty ( $\eta = 0.203$ , p = 0.532), institutional ( $\eta = 0.187$ , p = 0.589), and student-related factors ( $\eta = 0.236$ , p = 0.437). These findings indicate that BSECE graduates from different age groups at Northwest Samar State University do not significantly differ in how they perceive the various factors influencing their ECELE performance.

#### Relationship between the Licensure Outcomes of BSECE Graduates and their Profile

In the point-biserial correlation between sex of the respondents and their licensure outcomes reveal no significant relationship between sex and licensure outcomes (r = 0.162, p = 0.392). This finding indicates that the sex of BSECE graduates from Northwest Samar State University does not significantly predict their success or failure in the Electronics Engineering Licensure Examination (ECELE).

The Cramer's V correlation between age groups of the respondents and their licensure outcomes show no significant relationship between age and licensure outcomes (V = 0.216, p = 0.496). This finding indicates that the age of BSECE graduates from Northwest Samar State University does not significantly predict their success or failure in the Electronics Engineering Licensure Examination (ECELE).

### Relationship between the Factors that Influence ECELE Performance and the Licensure Outcomes of the Respondents

Table 2. Point-Biserial	Correlation between	Perceived Factors th	hat Influence ECELE
	Performance and Li	censure Outcomes	

Variable	Licensure Outcomes	
	r	р
Academic factors	0.437	0.016*
Faculty factors	0.208	0.270 <sup>ns</sup>
Institutional factors	0.382	0.037*
Student-related factors	0.451	0.012*

Legend:

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ns - relationship is not significant at 0.05 level (p-value > 0.05)

\* - relationship is significant at 0.05 level (*p*-value < 0.05)

\*\* - relationship is highly significant at 0.05 level (*p*-value < 0.01)

Table 2 presents the point-biserial correlation between academic factors and licensure outcomes reveals a significant positive relationship between academic factors and licensure outcomes (r = 0.437, p = 0.016). This finding indicates that BSECE graduates who perceive academic factors as having greater influence on ECELE performance are more likely to succeed in the licensure examination. Between faculty factors and licensure outcomes, the results indicate no significant relationship between faculty factors and licensure outcomes (r = 0.208, p = 0.270).



This finding reveals that BSECE graduates' perceptions of faculty factors' influence on ECELE performance are not significantly associated with their success or failure in the licensure examination. Between institutional factors and licensure outcomes, the results reveal a significant positive relationship between institutional factors and licensure outcomes (r = 0.382, p = 0.037). This finding indicates that BSECE graduates who perceive institutional factors as having greater influence on ECELE performance are more likely to succeed in the licensure examination. Between student-related factors and licensure outcomes (r = 0.451, p = 0.012). This finding indicates that BSECE graduates who perceive student-related factors as having greater influence on ECELE performance are more likely to succeed in the licensure examination. Between student-related factors and licensure outcomes (r = 0.451, p = 0.012). This finding indicates that BSECE graduates who perceive student-related factors as having greater influence on ECELE performance are more likely to succeed in the licensure examination. Notably, this represents the strongest correlation among all factors examined, highlighting the critical importance of personal engagement and characteristics in determining examination success.

#### **IV. Conclusion**

Based on the salient findings, several key conclusions were drawn regarding the performance and experiences of BSECE graduates from Northwest Samar State University. The university caters to a diverse group of graduates, encompassing various age groups, genders, civil statuses, and graduation periods. This diversity underscores the accessibility of the program and its adaptability to students at different life stages. The performance in the Electronics Engineering Licensure Examination (ECELE) is influenced by a complex combination of academic, faculty, institutional, and student-related factors, each contributing differently to the overall outcome. Academic preparation through the curriculum and review programs lays the groundwork for success, while institutional resources provide critical support, and individual characteristics shape the ability to leverage these resources and face challenges effectively. Despite the regional challenges confronting higher education institutions in Eastern Visayas, Northwest Samar State University has demonstrated commendable performance, achieving a 66.67% passing rate in the ECELE—significantly higher than the national average of 42.5% and the regional average of 38.7%. However, the existence of a considerable proportion of unsuccessful candidates and the reasons behind their failures highlight the need for targeted interventions. Notably, the factors affecting ECELE performance appear to transcend demographic distinctions; graduates, regardless of age, gender, civil status, or graduation year, share consistent views on what contributes to success. This points to a common understanding of key success factors fostered through shared academic experiences. Furthermore, the university's success in guiding students toward licensure in electronics engineering reflects demographic equity, as success rates do not significantly differ based on age, gender, civil status, or graduation timing. This suggests that the educational program effectively equips all students for professional certification. Critical to ECELE success are academic preparation, institutional support, and personal engagement, with student-related factors



showing the strongest influence on outcomes. Interestingly, faculty influence appears minimal, implying that current levels of faculty involvement in exam preparation may be insufficient or indirect—an area ripe for enhancement.

Conclusively, effective professional development for ECELE success necessitates a holistic strategy that includes strengthening curriculum alignment, enhancing institutional support, cultivating students' self-regulatory and psychological resilience, increasing faculty engagement, addressing financial barriers, and improving stress management techniques.

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