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Contributing Factors to the Performance of Graduate Students in the Written Comprehensive Examinations

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A B S T R A C T

The implementation of the revised Bicol University Graduate School (BUGS) policy or Graduate Program Manual of Operations (GPMO) on written comprehensive examinations, aligned with the Commission on Higher Education (CHED) Memorandum Order No. 15, series of 2019, aims to strengthen quality assurance in graduate education. However, a number of graduate students continue to encounter challenges in successfully passing the examination. This study examined graduate students' written comprehensive examination performance using institutional records from 2015 to 2024 and semi-structured interviews with graduate students from selected academic programs at a state university in the Bicol Region of the Philippines. It described performance trends before and after the implementation of the revised graduate examination policy and explored students' accounts of factors that shaped their examination experiences. The quantitative component involved descriptive analysis of institutional records; the qualitative component used thematic analysis of interview data. The study did not test statistical associations between individual-level factor measures and examination outcomes; therefore, its findings identify reported and contextual factors rather than statistically verified predictors. The findings revealed seven key factors influencing examination performance: inadequate preparation and review, prolonged gaps between completion of academic requirements and examination, perceived difficulty and technicality of examination questions, health and well-being concerns, competing academic, professional, and personal responsibilities, poor writing skills and examination anxiety, and weak response quality and examination-taking practices. These findings demonstrate that graduate students' performance is influenced by a complex interaction of institutional, instructional, and personal factors. The study recommends structured review programs, bridging and refresher support for returning students, academic-writing enhancement, wellness and counseling services, and strengthened academic advising and mentoring. Any recommendations concerning admission metrics should be considered only after evidence on admissions and subsequent examination outcomes is collected. These interventions are expected to improve students' preparedness, increase success rates in written comprehensive examinations, and further support the quality assurance initiatives of Bicol University Graduate School.

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RESUMO

A implementação da política revisada da Bicol University Graduate School (BUGS), ou Manual de Operações dos Programas de Pós-Graduação (Graduate Program Manual of Operations – GPMO), referente aos exames abrangentes escritos, alinhada à Ordem Memorando nº 15, série de 2019, da Comissão de Ensino Superior (Commission on Higher Education – CHED), tem como objetivo fortalecer a garantia da qualidade na educação de pós-graduação. No entanto, um número significativo de estudantes de pós-graduação continua enfrentando dificuldades para obter aprovação no exame. Este estudo investigou os fatores que influenciam o desempenho dos estudantes de pós-graduação nos exames abrangentes escritos realizados desde a implementação da política revisada no ano letivo de 2022–2023. Especificamente, buscou identificar os fatores que afetam o desempenho no exame e fornecer recomendações baseadas em evidências para ampliar o sucesso dos estudantes. Empregando um delineamento descritivo de métodos mistos, o estudo utilizou análise documental de registros institucionais e entrevistas semiestruturadas com estudantes de pós-graduação de diversos programas acadêmicos. Os dados quantitativos foram analisados por meio de estatística descritiva, enquanto as respostas qualitativas foram examinadas por meio de análise temática. Os resultados revelaram sete fatores principais que influenciam o desempenho no exame: preparação e revisão inadequadas; intervalos prolongados entre a conclusão dos requisitos acadêmicos e a realização do exame; percepção de dificuldade e tecnicidade das questões; preocupações relacionadas à saúde e ao bem-estar; responsabilidades acadêmicas, profissionais e pessoais concorrentes; habilidades insuficientes de escrita e ansiedade em relação ao exame; e baixa qualidade das respostas e práticas inadequadas de realização de provas. Esses achados demonstram que o desempenho dos estudantes de pós-graduação é influenciado por uma interação complexa de fatores institucionais, instrucionais e pessoais. O estudo recomenda a implementação de critérios rigorosos de admissão na pós-graduação, programas estruturados de revisão, cursos de nivelamento e atualização, iniciativas de aprimoramento da escrita acadêmica, serviços de bem-estar e aconselhamento, e o fortalecimento da orientação e mentoria acadêmicas. Espera-se que essas intervenções melhorem a preparação dos estudantes, aumentem as taxas de aprovação nos exames abrangentes escritos e reforcem ainda mais as iniciativas de garantia da qualidade da Bicol University Graduate School.

Palavras- chaves:
Desempenho no Exame Abrangente Escrito, Manual de Operações dos Programas de Pós-Graduação, Fatores Contribuintes, Análise Longitudinal, Variações Específicas por Programa

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Introduction

The Commission on Higher Education (CHED), through Memorandum Order No. 15, series of 2019, issued the Policies, Standards, and Guidelines (PSGs) for Graduate Programs to ensure the quality and relevance of advanced education in the Philippines. These PSGs are designed to align with the government's educational reforms and national development goals, particularly in fostering innovation, research, and development. In keeping with these directives, Bicol University, through BOR Resolution No. 667, series of 2021, approved its revised Policies, Guidelines, and Procedures, thereby reinforcing institutional compliance with CHED's mandate.

To further operationalize these reforms, Bicol University issued Administrative Order No. 668, series of 2022, prescribing specific guidelines for the conduct of comprehensive examinations. Unlike the previous policy, the revised guidelines distinctly categorize comprehensive examinations into Written and Oral components. For master's students, passing the written comprehensive examination is a prerequisite to the proposal defense, while doctoral students may advance to the oral comprehensive examination only after passing the written component. Provisions for re-examination are granted to those who initially fail, within a time frame of one (1) month to one (1) year; however, a second failure results in permanent disqualification from earning the degree.

Since the initial implementation of this policy in the first semester of SY 2022–2023, records have documented the number of examinees, passers, non-passers, and those permanently disqualified. This study analyzes institutional examination records for 2015–2024, a period that includes years before and after the revised policy was implemented. The pre-implementation years provide historical context; the post-implementation years allow descriptive comparison of observed outcomes. Because the analysis is observational and descriptive, changes across years cannot by themselves establish that the policy or the COVID-19 pandemic caused changes in pass rates. The findings will not only contribute to institutional efforts to improve graduate student success rates but will also uphold CHED's quality assurance mandate, thereby strengthening the university's role in advancing academic excellence and contributing to national educational priorities.

An evaluation of factors influencing the outcomes of the Comprehensive Pre-Internship Exam (CPIE) among medical students at Kermanshah University of Medical Sciences. This descriptive-analytical study included all students (N = 240) who participated in the CPIE over a three-year period from 2012 to 2014. Data were collected using a questionnaire that included CPIE results as well as educational and demographic information.

Statistical analyses, including the Spearman correlation coefficient, Mann-Whitney U-test, and analysis of variance, were employed to examine the relationship between students'

success and various study variables. Additionally, regression analysis was used to determine the role of independent variables in predicting students' success. One of the most significant risk factors associated with failure in the CPIE was the frequency of failed units in the apprenticeship course.

Conversely, the average scores in the pre-internship course were found to be the most critical success factors for the CPIE. The CPIE score demonstrated a strong direct relationship with the grade point average (GPA) of the apprenticeship course, the total GPA across all three courses, as well as the GPAs of the physiopathology and basic sciences courses, and the score of the comprehensive basic sciences examination. Furthermore, there was a notable inverse correlation between the CPIE score and the number of failed units in the apprenticeship course. In summary, the most influential factors affecting the CPIE results were failure in the apprenticeship course and GPA from prior educational stages (Khazaei, 2018).

The factors influencing student performance in university-level examinations were investigated. A questionnaire was used as the primary research tool, administered to 200 students—100 from the Faculty of Arts and 100 from the Faculty of Science at Bahauddin Zakariya University in Multan, Pakistan. The mean score was calculated to assess students' responses to each item. The data were analyzed by gender and faculty, comparing the groups using standard deviation and the Z-test.

Based on the analysis, conclusions were drawn for each statement. The study revealed several key findings: (i) respondents believed that psychological, physical, socio-economic, and educational factors significantly influenced their examination performance at the university level; (ii) changes in the format of question papers shortly before exams affected student performance; (iii) the use of unfair means during examinations negatively impacted their performance; and (iv) a lack of proper guidance hindered their exam outcomes.

Based on these findings, the study offered several recommendations to improve the examination system. These included: (1) providing students with proper exam preparation training to avoid overconfidence and exam-related anxiety, (2) ensuring that the exam environment is peaceful and conducive to focus, (3) designing questions that are of moderate difficulty, neither too easy nor too challenging, and (4) encouraging paper evaluators to concentrate more carefully when marking answers (Rasul & Bukhsh, 2011).

Moreover, a study examining the factors influencing the licensure examination performance of Radiologic Technology (RT) graduates from a private higher education institution (HEI) in Northern Mindanao, Philippines used a retrospective design, analyzing the academic records of 181 RT graduates who took the licensure examination between 2015 and 2019. Nine academic and non-academic factors were considered, and their effects on licensure examination performance were tested using both simple and multiple linear regression analyses.

The results identified three key factors that significantly influenced the licensure examination performance: Student Internship Grade (SIG), College Admission Test (CAT) scores, and Terminal Competency Assessment (TCA) scores. Based on these findings, the study highlighted the importance for administrators and educators in the HEI to recognize the roles of SIG, CAT, and TCA in the licensure examination. These factors should be integrated into the institution's admission and retention policies, as well as into the development of educational intervention programs aimed at improving the performance of RT graduates in licensure examinations (Talaroc et al., 2021).

Albert et al. (2022) explored the perceived factors influencing success and challenges faced by Bachelor of Science in Criminology graduates from a state university in the Philippines who failed the Criminologist Licensure Examinations (CLE). A descriptive-correlational research design was used to analyze quantitative data, while Colaizzi's descriptive phenomenology method was applied for the thematic analysis of qualitative data. The quantitative findings showed that home and family factors had a strong influence on CLE success, while student factors, school factors, review center factors, and personal factors had moderate impacts. Additionally, ten thematic clusters emerged as factors affecting CLE success, including interest in the program and access to qualified and dedicated faculty. Among the identified challenges were lack of exam preparation due to employment responsibilities, as well as personal and social pressures.

The study also found significant differences in respondents' perceptions of success factors when grouped by sex. Regarding the challenges associated with CLE preparation and participation, significant differences were observed only when respondents were grouped by civil status. Specifically, married respondents reported higher weighted means than single respondents, indicating that the challenges were more pronounced for married individuals. These findings could inform policy and program development aimed at improving graduates' success in licensure examinations by providing targeted interventions and early remediation strategies (Albert et al., 2022).

The performance of Bicol University graduate students in written comprehensive examinations is likely influenced by several factors that align with findings from previous studies. In Khazaei's (2018) evaluation of medical students, academic preparedness, reflected in GPA and prior academic achievements, strongly predicted success in the Comprehensive Pre-Internship Exam (CPIE). Similarly, it is reasonable to assume that Bicol University graduate students' academic performance throughout their coursework would affect their outcomes in comprehensive exams.

Moreover, the socio-economic, psychological, and educational factors highlighted by Rasul and Bukhsh (2011), such as stress, financial stability, and guidance, could also impact Bicol University students' examination performance. Talaroc et al. (2021) emphasized the role

of institutional policies and academic markers in determining success in licensure exams, which suggests that the structure of Bicol University's academic assessments and faculty support may influence how students perform in their comprehensive exams. Albert et al. (2022) pointed to external challenges, such as employment and personal pressures, which may similarly affect graduate students at Bicol University, particularly those juggling multiple responsibilities.

Meanwhile, factors influencing students' academic performance in the national biology examination within Gitega commune have been investigated. The study population included school directors, laboratory and library staff, as well as six senior students who participated in the biology national examination across five academic years (2016–2020) in all upper secondary schools offering the Biology-Chemistry and Earth Sciences combination.

A stratified sampling technique was employed to conduct this correlational study, which selected upper secondary schools from both urban and rural areas. The study involved 12 upper secondary schools, 12 library staff, 3 laboratory staff, and 1,961 senior six students, who were purposively selected based on their learning combination. Data were collected using questionnaires and a document review checklist.

The analysis was conducted using descriptive statistics, Analysis of Variance (ANOVA), and multiple linear regression tests, and the interpretation was guided by a literature review. The results revealed an inverse relationship between teachers' academic qualifications and students' academic performance, indicating that higher academic qualifications of teachers were linked to lower student performance.

Similarly, there was a negative relationship between teachers' professional qualifications and students' academic outcomes. However, teaching experience and professional training of biology teachers were positively associated with students' academic performance. In addition, physical facilities, such as laboratories, libraries, staff rooms, computer labs, and biology textbooks, were significantly and positively correlated with students' performance. Based on these findings, the study made several recommendations for improving student outcomes in national biology examinations (Bosco et al., 2023).

Walke, Y. S. C., Samuel and Bandodkar (2015) conducted a study to identify factors contributing to the academic performance of high- and low-achieving students in pharmacology. The study involved all 62 students in the third semester, who were classified into the top 30th percentile and bottom 30th percentile based on their examination marks. After obtaining informed consent, the students were asked to complete a questionnaire in a stress-free environment.

The analysis revealed several factors that significantly contributed to the success of high-achieving students. These included the use of reference books from the library, learning from various sources such as patients, avoiding past mistakes, proper time management, and

a high level of intrinsic motivation to study. The study concluded that students aiming to improve their academic performance should focus on a combination of these factors, rather than concentrating on any single one. When implemented effectively, these strategies could enhance academic performance and help prevent failures (Samuel & Bandodkar, 2015).

Following this, the influence of student demographics, prior academic performance, course engagement, and time management on the performance of pharmacy students in course examinations and Objective Structured Clinical Examinations (OSCEs) has also been looked into. The study involved one cohort of pharmacy students enrolled in a five-year combined Bachelor and Master of Pharmacy degree program.

The variables examined included student demographics, baseline factors (such as language assessment and situational judgment test [SJT] scores), prior academic performance (high school admission rank), course engagement, and time management related to pre-class online activities. Data were gathered from course records, learning management systems, and institutional databases, and analyzed using univariate, bivariate, and multivariate associations with four linear regression models.

The dataset consisted of three years of data on 159 pharmacy students. The findings revealed several significant predictors of performance. Positive predictors of OSCE communication performance included being a domestic (Australian) student, higher written English proficiency at baseline, and completion of pre-class online activities. Workshop attendance and low empathy (as measured by an SJT) positively predicted OSCE problem-solving performance.

For year 2 end-of-course examinations, significant predictors included the Australian Tertiary Academic Rank, completing pre-class online activities, and high integrity as measured by an SJT. The study concluded that various demographic, academic, and behavioral factors significantly impacted pharmacy students' performance, highlighting the need for future research to explore additional factors and outcomes in different contexts (Lyons et al., 2020).

A comprehensive evaluation of the current literature on targeted interventions in higher education, focusing on emerging theoretical and conceptual questions in the field of intervention science has been explored. Their review covered three types of interventions aimed at enhancing students' perceptions of value in academic tasks, their framing of academic challenges, and their connection to personal values.

The interventions examined specifically targeted academic outcomes, such as grades, major or career plans, course enrollment, and student retention in higher education. Additionally, the authors included interventions that also aimed to support the pipeline to college and had been evaluated in at least two studies. Harackiewicz and Priniski concluded with a discussion on the future implications for intervention science, emphasizing the potential

for refining and expanding intervention strategies in educational settings (Harackiewicz & Priniski, 2018).

Furthermore, the effectiveness of a targeted academic support program designed to improve American Board of Surgery In-Training Examination (ABSITE) scores and Qualifying Examination (QE) outcomes for surgical residents has been studied. The intervention, initiated in 2001 for residents scoring below the 31st percentile on the ABSITE, included elements such as individual faculty mentoring, personalized learning plans, video review sessions for the QE, the use of the Surgical Education and Self-Assessment Program (SESAP), monthly evaluations, and quarterly feedback.

Additional components like mock oral exams, consultations with educational psychologists, and voluntary follow-up mentoring were introduced later. The study reviewed data for 15 chief residents from 2003 to 2005, comparing those who participated in the academic intervention (AI) program with those who did not (NI). Of the eight residents who completed nine interventions, seven showed significant improvements, raising their ABSITE percentiles above 30.

The first post-intervention ABSITE score gains for the AI group were larger than those observed in both the NI group and national peer groups. These gains were sustained for four AI residents until the end of their residency. Six out of eight AI residents (75%) passed the QE on their first attempt, compared to a 100% pass rate for the NI group. However, three AI residents maintained a PGY-5 ABSITE percentile of ≤25, which was linked to a 40% QE failure rate. Despite this, the AI group's overall 75% first-time pass rate on the QE demonstrated the success of the intervention program in improving academic performance (Borman, 2006).

Jerman (2023) sought to enhance the educational experience of barbering students to improve their chances of passing state board examinations and achieving career success. The study identified four key factors that negatively affected licensure attainment and entry into the barbering profession: insufficient educational experiences, difficulties in taking the exam, lack of resources, and outdated examination practices.

In response, the study implemented an improvement initiative at Jerman's Institute of Barbering and Cosmetic Arts (JIBCA), a Black, family-owned barber college, designed to help students overcome systemic barriers to entering the barbering profession. The initiative utilized a learner-centered approach through a Comprehensive Curriculum and Competency-Based Instruction Model (CCC-BIM), along with a Knowledge and Skills Acquisition (KASA) form to track student progress in acquiring essential competencies.

The program included formative assessments to regularly evaluate students' performance after mastering each competency, followed by summative assessments at the end of the initiative. Quantitative data on JIBCA students' ABLE (Achievement-Based Learning Evaluation) scores were collected and analyzed to assess the effectiveness of the intervention.

The findings aimed to inform JIBCA about successful pedagogical practices, increase the likelihood of students passing their licensure exams, and ensure that graduates gained the knowledge and skills necessary to maximize their earning potential post-licensure (Jerman, 2023).

Munabi et al. (2020) explored the potential of eLearning interventions to enhance interactions in education, as posited by the Interaction Equivalency theorem, suggesting it could help address the shortage of health professionals. This audit aimed to assess the impact of an eLearning intervention in general histology and embryology on students' summative examination scores. It compared the written and practical examination scores of three groups of students: one group received a five-week eLearning intervention, while the other groups did not. Specifically, two examinations were conducted within the same academic year but covered different courses, while two additional examinations involved the same subject but in different academic years.

In each pair of examinations, one group had the eLearning intervention. A Bayesian multilevel regression modeling approach was utilized to analyze the results. The course with the eLearning intervention demonstrated significantly higher scores ($p < 0.01$) compared to a similar course without the intervention and to the same course with students from the previous year. Although controlling for other factors did not reveal a significant difference in examination scores due to the intervention alone, student nationality, sponsorship, and program significantly influenced the scores. Overall, the eLearning intervention course exhibited markedly better examination outcomes.

Wijaya, Yu, Xu, Yuan, and Mailizar (2023b) investigated the factors significantly impacting the academic performance of mathematics education doctoral students in Indonesia. Drawing from prior research, the study identified factors such as fear of delay, student engagement, parental support, teacher support, facilitating conditions, stress level, and well-being.

An online questionnaire was administered to 147 doctoral students in mathematics education, and the data were analyzed using partial least squares structural equation modeling (PLS-SEM). The findings indicated that teacher support had the most substantial positive effect on the students' academic performance, while student engagement was the strongest positive contributor to their well-being. Additionally, parental support was found to significantly reduce stress levels. These results offer practical implications for universities and supervisors, emphasizing the need to enhance doctoral students' well-being to foster academic success and improve the quality of doctoral programs in education. Theoretically, the study contributes to the development of an empirical model that can be applied to explore and explain how various factors influence doctoral students' academic performance in different contexts.

Alani and Hawas (2021) examined factors influencing students' academic performance at Sohar University (SU) in Oman, with implications for improving stakeholder inputs—students, teachers, and parents—in higher education institutions globally. A survey conducted across various faculties at SU utilized a questionnaire, gathering primary data from 562 participants. Regression analysis was employed to critically evaluate the data. The study found that environmental factors significantly impacted students' performance, with students favoring a quiet and conducive university environment. Additionally, students perceived that teachers with strong teaching skills and diverse instructional techniques positively influenced their academic performance.

Garcia and Al-Safadi (2014) proposed intervention strategies to enhance the teaching of Data Structures courses in undergraduate computing and information technology programs. The study employed a descriptive method, formal assessments (student grades), and informal interviews with instructors. Formal assessment results indicated that 39% of students exhibited poor academic performance in the course. This finding highlighted the necessity for intervention strategies aimed at improving student motivation, boosting academic performance, and elevating the quality of education in the field of computing and information technology.

Finally, De Boer, Donker, and Van Der Werf (2014) investigated how various attributes related to the implementation of learning strategy instruction interventions influence students' academic performance, and how the method used to test these interventions affects the measured outcomes. Through meta-regression analysis, they examined factors such as the subject domain, the implementer, the duration and intensity of the intervention, student cooperation, and aspects of the research method, including measurement instruments.

The analysis revealed that most attributes moderated the effect of the intervention. Forward regression analysis identified four key attributes for the best model. This analysis found that interventions evaluated with standardized tests had a lower effect compared to those evaluated with unstandardized tests. Additionally, interventions conducted by assistants or researchers were more effective than those led by teachers or delivered via computers. Student cooperation negatively impacted the effect, while session duration had a positive impact. These attributes collectively accounted for 63.2% of the variance in intervention effects, highlighting the importance of considering not only the instructional focus but also other attributes of the intervention.

The study on the performance of Bicol University graduate students in written comprehensive examinations shares common themes with several studies on factors affecting academic performance in various educational contexts. For instance, Bosco et al. (2023) identified physical resources, such as laboratories and libraries, as significant factors influencing student outcomes in biology exams, a finding that parallels the likely importance

of institutional support and resources in comprehensive exams at Bicol University. In addition, Samuel and Bandodkar (2015) emphasized the role of proper time management, access to learning resources, and intrinsic motivation in student success, which may also be relevant for graduate students preparing for comprehensive exams. Similarly, Lyons et al. (2020) identified demographics, prior academic performance, and student engagement as predictors of performance in pharmacy examinations, which could also be significant factors influencing Bicol University students' comprehensive exam outcomes.

Furthermore, interventions such as those studied by Borman (2006) and Jerman (2023), which provided targeted academic support to improve exam performance, highlight the potential for structured intervention programs to aid Bicol University students in overcoming challenges and improving exam success. These studies collectively underscore the multifaceted nature of academic performance, shaped by a combination of institutional resources, individual motivation, prior academic achievement, and targeted interventions.

Using institutional records from 2015–2024 and interview accounts, this study examines written comprehensive examination outcomes across graduate programs. The years 2015–2021 are treated as the historical pre-implementation period, while 2022–2024 are treated as the period following implementation of the revised policy. These periods are compared descriptively; the comparison is not interpreted as a causal evaluation of the policy.

The study addressed the following objectives: Describe graduate students' written comprehensive examination performance using institutional records from 2015–2024; Identify and thematically analyze factors that interview participants reported as shaping their examination preparation and performance; Describe year-to-year performance patterns before and after implementation of the revised graduate examination policy; and Describe program-level variation in the recorded examination outcomes and, where interview evidence is available, summarize reported program-specific experiences.

Methodology

This study critically considers three (3) main perspectives to look into the factors affecting the performance of graduate students who took the written comprehensive examination such as: (a) Institutional Factors, (b) Instructional Factors, and (c) Personal Factors.

Institutional factors. Consideration of the provisions of the revised BUGS Policy and other University's policies that concerns this study, shall be one of the critical lenses as well as it implementation, vis-à-vis the CHED Memorandum No. 15, series of 2019 as these set overall academic standards for Bicol University as one of the SUCs mandated to initiate its implementation. Furthermore, advising, mentoring, and resources provided by the University

shall be looked into and examined, and eventually recommend appropriate measures. This is a crucial component that serves as a foundation to improve student performance in the academics journey which includes taking the written comprehensive examination as partial requirement for the program being sought.

Instructional factors. A critical review and exploration of the instructional methods provided by respective professors in preparing students for written comprehensive examinations shall be considered. This include pedagogical approaches, curriculum design, teaching strategies, assessments and feedback mechanisms in their respective classes.

Individual Factors. Students' personal and professional circumstances will be examined as a potential indicator of success in written comprehensive examinations. Moreover, this likewise includes study habits, time management skills, and strategies employed by students in preparing for comprehensive examinations will be analyzed.

The theoretical frameworks guiding this research are Self-Determination Theory (SDT) and Metacognition. Self-Determination Theory (SDT) serves as a motivational theory encompassing personality, development, and social processes. It delves into how social contexts and individual differences influence various motivations, particularly autonomous and controlled motivation. Predictively, SDT assesses the impact of these motivations on learning, performance, experience, and psychological health.

According to SDT, all individuals possess three fundamental psychological needs: competence, autonomy, and relatedness. The satisfaction of these needs is vital for effective functioning and overall wellness. By fulfilling these basic needs, optimal motivational traits and states of autonomous motivation and intrinsic aspirations are cultivated, fostering psychological health and meaningful engagement with the world (Cody R. DeHaan, Richard M. Ryan, 2014).

Furthermore, Metacognition is the process of reflecting on one's thinking. Specifically, it involves the planning, monitoring, and assessment of one's understanding and performance. Metacognition also encompasses a critical awareness of both one's thinking and learning processes and oneself as a thinker and learner (Chick, 2013).

In the context of this study, the researcher explored and analyzed the respondents' self-determination and metacognitive skills, examining their significance in relation to performance in written comprehensive examinations.

Research design. This study used a descriptive mixed-methods approach, with a quantitative-to-qualitative sequence consistent with an explanatory sequential design: institutional examination records were summarized first, and interviews were then used to contextualize students' reported experiences. This design label should be retained only if the actual chronology was quantitative analysis followed by qualitative data collection and

integration. If the interview phase occurred first or the two strands were collected concurrently, the design label must be revised to reflect the actual procedure.

Quantitative data and documentary analysis. Institutional records from the Graduate School were reviewed for the years 2015–2024. A documentary analysis guide was used to extract the number of examinees and outcomes by year and examination area. The manuscript states that the guide was validated by experts. The final version should identify the number and qualifications of validators and describe any revisions made after validation.

Qualitative interviews and sampling. Semi-structured interviews explored examinees' experiences and their perceptions of factors affecting preparation and performance. The current draft does not provide enough information to replicate this phase. Before submission, insert the actual number of interview participants; the sampling method and rationale; inclusion criteria; recruitment process; interview dates, mode, and duration; language(s) used; recording and transcription procedures; and the number of participants per program. The manuscript currently mentions 45 programs, but it must clarify whether all 45 programs were represented in the interviews or whether participants came from a subset. Do not describe the selection as random unless a documented random-selection procedure was used.

Data analysis and integration. Quantitative records were summarized using frequencies and percentages. Means or weighted means should be retained only for variables for which these statistics are appropriate and clearly defined. Interview data were analyzed thematically using the six phases described by Braun and Clarke (2006): familiarization, initial coding, theme development, theme review, theme definition and naming, and report production. The revised analysis integrates the strands by using interview themes to contextualize the descriptive patterns in the records. No correlation analysis is reported in the current manuscript; consequently, the results should not be described as demonstrating statistical relationships between the seven themes and examination outcomes.

Quantitative data were summarized using frequencies and percentages; any use of means or weighted means should be defined and justified according to the variable measured. Additionally, the quantitative data were derived from the results of the written comprehensive examinations through documentary analysis, examining the frequency, percentages, and mean of the collected data.

For the qualitative aspect, themes, patterns and trends were captured and analyzed, following Braun and Clarke's Thematic Analysis (2006). The analysis of qualitative data underwent the six systematic phases: (1) familiarization with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. Through this iterative and reflective process, researchers develop an analytic narrative that captures both the explicit and implicit meanings embedded in the data. (Braun & Clarke, 2006).

Ethical Considerations and Limitations. The researcher maintained the confidentiality of institutional examination records and the privacy of interview participants throughout the study. Access to examination records and the use of interview responses were handled in accordance with institutional requirements and documented research ethics procedures.

Participants were informed of the study's purpose, the voluntary nature of their participation, and their right to decline questions or withdraw in accordance with the applicable protocol. Identifying information was removed from interview transcripts and reported findings to protect participants' identities. Electronic and physical records were stored securely, with access limited to authorized research personnel. The applicable ethics review or exemption, institutional authorization, and consent procedures have been specified based on the study's actual documentation.

Results and Discussions

Section 10, Article 1 of the Graduate Program Manual of Operations (GPMO), the Comprehensive Examination, which is to be given by the Department offering the Program, tests the student's competence in integrating knowledge in his/her major and minor fields, and is based on all courses prescribed for the student. This integrative Comprehensive Examination is in written form for the master's level, and in oral and written forms for the doctoral degree.

Guided by the objectives and methodology of this study, this section presents the discussions and implications that emerged from the analysis of data on the performance of graduate students in the written comprehensive examinations. The analysis is framed in reference to the old policies and the GPMO, which is aligned with CHED Memorandum Order (CMO) No. 15, series of 2019, providing the Policies, Standards, and Guidelines (PSGs) for Graduate Education in the Philippines. To capture the nuances more substantially, this study addressed four (4) objectives, the answers to which are discussed in detail in the succeeding sections.

The Performance of Graduate Students in Written Comprehensive Examinations

The written comprehensive examination is an important academic process that serves as a standard for evaluating the overall knowledge, skills, and readiness of graduate-level students. Through this exam, students' ability to synthesize concepts, demonstrate critical thinking, and express logical and organized arguments based on theoretical and practical knowledge in their field is measured. This research primarily examines students' performance in written comprehensive examinations. The purpose of this study was to determine their level of academic proficiency, identify performance-influencing factors, and explore the

implications for curriculum design, pedagogical strategies, and programs supporting academic success at the graduate level.

Table 1.

Performance of graduate students in the written comprehensive examination for master's programs (SY 2015–2024)

YEAR	NO. OF TAKERS	NO. OF PASSERS				NO. OF FAILED			
		F	(%)	S	(%)	F	(%)	S	(%)
2015	289	279	97%	274	95%	7	2%	9	3%
2016	204	196	96%	194	95%	4	2%	8	4%
2017	363	347	96%	329	91%	11	3%	23	6%
2018	309	288	93%	284	92%	13	4%	19	6%
2019	407	363	89%	373	92%	34	8%	28	7%
2020	144	122	85%	127	88%	19	13%	9	6%
2021	354	297	84%	314	89%	49	14%	30	8%
2022	397	356	90%	341	86%	28	7%	26	7%
2023	601	544	91%	548	91%	43	7%	37	6%
2024	489	440	90%	431	88%	37	8%	31	6%

Foundations (F); Specialization (S)

Table 1 shows that the reported pass rates for master's examinees varied across years. Foundation pass rates declined from 97% in 2015 to 84% in 2021, then rose to 90–91% in 2022–2024. Specialization pass rates also fluctuated over the period. These are descriptive patterns only. The timing overlaps with the COVID-19 pandemic and the introduction of revised institutional guidance, but the available trend data do not establish that either event caused the observed changes. The authors should verify every numerator, denominator, and percentage in Table 1 against the source records before publication.

Table 2.

Performance of graduate students in the written comprehensive examination for doctoral programs (SY 2015–2024)

YEAR	NO. OF TAKERS	PASSERS						UNSUCCESSFUL					
		F	(%)	S	(%)	C	(%)	F	(%)	S	(%)	C	(%)
2015	71	71	100%	71	100%	71	100%	0	0%	0	0%	0	0%
2016	55	55	100%	55	100%	55	100%	0	0%	0	0%	0	0%
2017	54	49	91%	50	93%	52	96%	5	9%	4	7%	2	4%
2018	84	75	89%	79	94%	78	93%	7	8%	2	2%	1	1%
2019	83	78	94%	73	88%	75	90%	4	5%	4	5%	0	0%
2020	27	27	100%	24	89%	26	96%	0	0%	2	7%	0	0%
2021	47	35	74%	41	87%	40	85%	8	17%	6	13%	3	6%
2022	65	63	97%	54	83%	39	60%	1	2%	8	12%	1	2%
2023	75	68	91%	68	91%	53	71%	1	1%	5	7%	0	0%
2024	67	64	96%	62	93%	45	67%	0	0%	3	4%	1	1%

Foundations (F); Specialization (S); Cognates (C)

For doctoral programs, the reported outcomes vary across foundation, specialization, and cognate examination areas. The 2015 and 2016 entries show 100% pass rates in all three areas. However, these figures alone do not demonstrate that the outcomes resulted from candidate selection or higher academic preparation. The authors should verify the counts and denominators for each area, particularly where the number of passers appears to equal the total number of takers across multiple examination areas. However, beginning in 2017 and 2018, slight declines appeared, with failures emerging in specialization (up to 7 percent) and cognate courses (up to 4 percent). In 2021, foundation pass rates dropped to 74 percent while specialization and cognate pass rates fell to 87 percent and 85 percent, respectively. The sharpest decline, however, was in 2022, when cognate performance plunged to only 60 percent.

Combining both master's and doctoral programs, the results reveal that both master's and doctoral programs have been able to sustain high ratings over the years, despite periods of disruption brought about by the pandemic and the transition to the CMO No. 15, series of 2019. The decline in performance during 2020–2021 highlights the vulnerability of graduate education to external factors such as the pandemic, emphasizing the importance of resilient and flexible learning modalities and the transition of the institution to comply with the requirements mandated by the Commission on Higher Education, where academic rigors and stringent provisions in the comprehensive examination are observed.

This is one of the measures to meet the expected outcomes in the Philippine Qualifications Framework (PQF) level 7 (master's) and level 8 (doctoral). It could also be recalled that the University took off the implementation of the CMO 15, s. 2019, in the year 2021, by implementing also its internal policy, which was based on the issuance of the Commission on Higher Education, as approved by the Board of Regents—the reason for the increase in the percentage of failure rates in the 2021 to present. These findings have several implications for policy and practice: there is a need to strengthen academic support mechanisms, such as mentoring and remedial programs, particularly in specialization and cognate areas; revision of the curriculum to align it with the provisions in the CMO 15, series of 2019, and ensure alignment of instruction and assessment standards.

The findings highlight the importance of strengthening the academic support mechanism, particularly in mentoring and remedial programs in specialization and cognate areas. Heretape and Paglinawan (2024) emphasized that an exemplary structure of academic support services greatly aids students' preparedness for licensure examinations, which suggests that targeted interventions can fill the gap in their performance. Additionally, to ensure that the instruction and assessment standards align with CMO No. 15, series 2019, revision of the curriculum is essential. The revision of the curriculum is important to ensure that the instruction and assessment standards align with CMO No. 15, series 2019.

The IDA Conceptual Model proposed by Damoco et al. (2024) serves as a guide for policy adjustments and the development of a support mechanism to implement CMO No. 15, series of 2019, effectively. This model helps determine the necessary resources and strategies for improving graduate programs, as well as how outcomes can be effectively measured. Accordingly, the IDA Conceptual Model helps to improve the quality of graduate education in the Philippines.

These implications are consistent with Tinto's Student Integration Theory, which explains that academic and social support systems are important to students' retention and persistence. According to this theory, the students are more likely to be motivated and stay in the institution when they feel connected both academically and socially.

Nuuyoma and Sing (2025) confirm this framework, arguing that institutions have a responsibility to actively promote student integration. Passive support is not enough; schools need to respond to students' needs through strategies that focus on their well-being, for example, mentoring programs, mental health services, or peer support groups. In this way, attrition rates are reduced and doctoral student success is enhanced.

Factors that influenced the performance of graduate students in written comprehensive examinations

From the conducted interviews among the key informants, the following key themes on their narratives were derived, reflecting factors that contributed to their performance in taking the written comprehensive examinations, such as:

a) Lack of preparation and regular examination review

One of the main reasons graduate students struggle with the written comprehensive exam is a lack of preparation and examination review. Several students admitted that they either didn't review at all, only focused on certain subjects, or simply did not have enough time to prepare. This is especially challenging since the exam for master's students covers two areas, foundation and major courses, while the doctoral exam includes a third area, cognates, in addition to foundation and major courses. As a result, some students gave incomplete or superficial answers or missed important questions entirely.

The exam calls for well-rounded, well-supported responses that show both theoretical knowledge and the ability to connect concepts from coursework. Without enough preparation, students found it harder to recall key ideas or apply them in their answers. Many also shared that they only reviewed certain topics or sections of the curriculum, which ended up affecting their overall performance. These findings highlight just how important good study habits and thorough exam preparation are for success. For instance, one student admitted, "Did not

review, that's why I failed", while another confessed, "I was not able to review in foundation courses and major courses because of a conflict with our training in school".

b) CAR to Comprehensive Examination time gap or long break from academic engagement

As a matter of policy, both in the old and new, a prerequisite before a student can be allowed to take the comprehensive examination is that all courses or coursework must have been fully completed by a graduate student. The Office can then acknowledge that the student has completed the academic requirements (CAR) as prescribed in the curriculum approved by the governing board. One of the recurring themes that seems to be a challenge was the time gap or long break from academic engagement, or the time gap between completing the academic requirements and the time when the student took the examination, which often resulted in forgotten or outdated knowledge. Several students stopped their studies for years before taking the exam, which made it difficult for them to recall even foundational concepts.

This time gap between coursework and examination creates a disadvantage, as cognitive retention declines over time without continuous reinforcement or practice of the concepts learned during their regular residence in the Graduate Studies. This finding suggests that the Graduate School may consider bridging courses or refresher interventions that specifically address content gaps for returning students to improve their preparedness in taking the examination.

Many examinees mentioned that they had stopped studying for years before taking the examination. One noted, "I stopped for a long time because of pregnancy, and so I forgot already some concepts", while another explained, "I stopped for almost 20 years because I prioritized building a family, the reason why I failed. Some questions are no longer familiar, and I guess the curriculum during my time is different from the present".

c) Difficulty and technicality of the examination questions

The difficulty and technicality of the examination questions were also identified as a significant factor. Students described the questions as hard, highly technical, and requiring heavy memorization and familiarization of concepts, some questions are beyond what was covered during coursework. A few also pointed to a lack of alignment between classroom discussions and examination content, which created feelings of confusion and frustration. This reveals the importance of aligning comprehensive examinations with curriculum standards and ensuring that exams test both breadth and depth of learning in a fair manner.

Poor alignment between instruction and assessment can demotivate students and undermine the purpose of the comprehensive exam. For example, one student commented, "The exam is really difficult. It has difficult questions as I observe some of them were not taught when I was still taking the courses" while another noted, "Questions are hard, topics are very technical, and some concepts need memorization".

d) Health and well-being concerns

Equally important are the health and well-being concerns of the students who took the examination, which had a notable impact on exam outcomes. Several students reported being sick, experiencing mental blocks, pregnancy-related challenges, stress, or emotional distress due to personal crises during the examination. These factors compromised their concentration, stamina, and overall performance.

Mental readiness is as crucial as intellectual preparation, and when students are not in their best condition, it directly affects their ability to perform under pressure. And with this, the institution may thus need to establish supportive mechanisms such as wellness programs, flexible exam schedules, or counseling services to help students manage these concerns, though it is already specified in the Graduate Program Manual of Operations (GPMO) that respective programs may exercise flexibility in scheduling the examination. One student admitted, “I was not feeling well during the examination, I had fever but I just needed to push through with the examination”, while another shared, “My mother died, and I was not mentally okay when I took the examination”. Similarly, one examinee cited, “I was not so ready and confident due to pregnancy”.

e) Overlapping concerns and tasks in academic, professional, and personal preparations

The conflict between academic preparation and external responsibilities also emerged as a strong theme. Many graduate students were professionals with demanding workloads and family responsibilities. Overlapping school tasks, administrative duties, and even conflicts with training sessions limited the time available for study. This pressure reduced their ability to focus fully on exam preparation, leading to unsatisfactory performance. The findings highlight the need for institutions to consider the realities of working graduate students by offering flexible review opportunities and schedules that acknowledge these competing commitments. As one examinee shared, “I was not able to study due to overlapping activities in school. I am handling 5 designations assigned by my principal”, while another explained, “I had lack of time to review, and I have many tasks in school as the principal, so I was not able to prepare”.

f) Poor writing skills and examination anxiety

As the examination tests the student’s competence in integrating knowledge in his/her major and minor fields, based on all courses prescribed, another theme is competence in writing and examination anxiety, which negatively affected students’ performance. Some admitted that they felt nervous, lacked confidence in their answers, or were overwhelmed by

the volume of questions. In certain cases, students reported experiencing mental blocks or forgetting key concepts under pressure.

Some admitted that writing was their weakness and that they could not express themselves in writing, but they are good at speaking and other macro skills. Such issues highlight that success in examinations depends not only on knowledge but also on psychological readiness. Institutions can support students by offering training in test-taking strategies, stress management, and time management, which may enhance confidence and reduce exam anxiety.

Some students expressed that they were overwhelmed, nervous, or lacked the confidence to answer questions properly. For example, one student admitted, “I was overwhelmed with the questions and I felt so nervous when I received the questions”, while another explained, “I was not confident with the examination because I felt like I had not prepared well”. In some cases, students even left items unanswered due to lack of confidence and knowledge on the subject matter, such as “Three items were left unanswered, because it was difficult and it was already time for submission”.

g) Response quality and exam-taking practices

Finally, issues related to response quality and exam-taking practices were evident. Several students gave short or superficial responses, left some items unanswered, or struggled with poor handwriting that may have influenced the readability of their work. Some takers expressed that they have been writing their personal and professional experiences in the workplace as their answers to the questions, and disregarded the concepts and theories taught in the classwork.

This could have affected their performance in the examination as readers or checkers look into the comprehensibility of students’ answers by hitting a balance of answers between the classwork-taught concepts and personal or professional experiences. Others admitted to cramming or failing to expound answers due to time constraints. These problems indicate that students need to develop not only mastery of content but also the ability to communicate their ideas clearly and comprehensively in written form. This suggests a need for pre-exam writing workshops or orientation sessions to help students practice effective and substantive answering strategies. Several students reported giving short or superficial responses, struggling with poor handwriting, or cramming their answers within the limited time.

One candidly shared, “I only had short and direct responses. I was not able to expound the answers. I thought it was just okay”, while another admitted, “I am not good at handwriting that could have influenced the checker’s decision. But I have so much ideas in mind”. Similarly, one noted, “My answers were not substantial. I just provided direct responses to the question”.

It could be gleaned that the performance of graduate students in written comprehensive examinations was influenced by an interplay of personal, academic, and

institutional factors. The statistical data show that while passing rates remain relatively high, declines during the pandemic years and with policy shifts or transitions illustrate how external disruptions and systemic changes affect outcomes. Taken together, these findings emphasize that comprehensive exam performance was not solely a measure of academic knowledge but also a reflection of study habits, psychological readiness, health conditions, professional responsibilities, and institutional support mechanisms, as reflected in the analysis of factors that contribute to the performance of takers. Table 1 and 2 presents the performance of graduate students who took the examination at the master's and doctoral levels.

The interview findings indicate that participants perceived preparation, academic gaps, question difficulty, health and well-being, competing responsibilities, writing skills, anxiety, and response strategies as relevant to their examination experiences. These themes support consideration of integrated academic support, including metacognitive and self-regulated learning strategies, clear examination guidance, writing development, and test-anxiety support; however, the interview data do not establish the independent effect or relative importance of each factor.

Should provide structured review schedules and metacognitive workshops to strengthen self-regulated learning and retention (Panadero, 2017); introduce sample items and item-writing training to reduce excessive cognitive load and make the technicality level of the questions more transparent (Sweller, Ayres, & Kalyuga, 2011); and offer easily accessible mental health support and test-anxiety reduction programs because stress and anxiety directly lower test performance. The combination of these measures will improve the quality of preparation, address role conflict, and increase examinees' equal opportunity to demonstrate their knowledge without being hindered by structural and personal barriers (Spadafora et al., 2020).

Analysis of performance trends in written comprehensive examinations over the years following the BUGS policy implementation (Per Examination Area)

Following the implementation of the BUGS policy, the data presented in the table was used to analyze the performance trends over the years of the written comprehensive examinations. By examining each specific area of examination, key trends can be identified and provide insights into how the policies influence the students' achievement.

Table 3.

Performance trends in written comprehensive examinations over 2015–2024 by examination area

Year	Examination area	Takers (n)	Passers, n (%)	Unsuccessful, n (%)	Residual/unclassified, n (%)
2015	Foundation	360	350 (97%)	7 (2%)	3 (1%)
2015	Specialization	360	345 (96%)	9 (3%)	6 (2%)
2015	Cognate	71	71 (100%)	0 (0%)	0 (0%)
2016	Foundation	259	251 (97%)	4 (2%)	4 (2%)
2016	Specialization	259	249 (96%)	8 (3%)	2 (1%)
2016	Cognate	55	55 (100%)	0 (0%)	0 (0%)
2017	Foundation	417	396 (95%)	16 (4%)	5 (1%)
2017	Specialization	417	379 (91%)	27 (6%)	11 (3%)
2017	Cognate	54	52 (96%)	2 (4%)	0 (0%)
2018	Foundation	393	363 (92%)	20 (5%)	10 (3%)
2018	Specialization	393	363 (92%)	21 (5%)	9 (2%)
2018	Cognate	84	78 (93%)	1 (1%)	5 (6%)
2019	Foundation	490	441 (90%)	38 (8%)	11 (2%)
2019	Specialization	490	446 (91%)	32 (7%)	12 (2%)
2019	Cognate	83	75 (90%)	0 (0%)	8 (10%)
2020	Foundation	171	149 (87%)	19 (11%)	3 (2%)
2020	Specialization	171	151 (88%)	11 (6%)	9 (5%)
2020	Cognate	27	26 (96%)	0 (0%)	1 (4%)
2021	Foundation	401	332 (83%)	57 (14%)	12 (3%)
2021	Specialization	401	355 (89%)	36 (9%)	10 (2%)
2021	Cognate	47	40 (85%)	3 (6%)	4 (9%)
2022	Foundation	462	419 (91%)	29 (6%)	14 (3%)
2022	Specialization	462	395 (85%)	34 (7%)	33 (7%)
2022	Cognate	65	39 (60%)	1 (2%)	25 (38%)
2023	Foundation	676	612 (91%)	44 (7%)	20 (3%)
2023	Specialization	676	616 (91%)	42 (6%)	18 (3%)
2023	Cognate	75	53 (71%)	0 (0%)	22 (29%)
2024	Foundation	556	504 (91%)	37 (7%)	15 (3%)
2024	Specialization	556	493 (89%)	34 (6%)	29 (5%)
2024	Cognate	67	45 (67%)	1 (1%)	21 (31%)

As Table 3 presents the annual performance trends of graduate students in the written comprehensive examinations from 2015 to 2024 across the foundation, specialization, and cognate areas. The results indicate generally high passing rates in the foundation and specialization examinations during most of the period, although performance varied across years and examination areas. In the foundation area, the passing rate declined from 97% in 2015 and 2016 to 83% in 2021, before increasing to approximately 91% in each year from 2022 to 2024. In the specialization area, the passing rate decreased from 96% in 2015 and 2016 to 85% in 2022, then rose to 91% in 2023 and remained relatively high at 89% in 2024. These patterns show fluctuations in performance rather than a consistent year-on-year improvement.

The cognate area exhibited a different pattern. Passing rates were 100% in 2015 and 2016, decreased to 85% in 2021, and fell further to 60% in 2022. Although the rate increased to 71% in 2023, it declined slightly to 67% in 2024. The lower passing rates in the most recent three years suggest that the cognate area warrants closer examination. However, the number of cognate examinees was smaller than the number of foundation and specialization examinees, and the cognate results represent doctoral-level examinees only. The results should therefore be interpreted in light of these differences in coverage and cohort size.

The unsuccessful counts also varied across years. In the foundation area, the unsuccessful proportion reached 14% in 2021, corresponding to 57 examinees, before decreasing to 6% in 2022 and approximately 7% in 2023 and 2024. In specialization, the unsuccessful proportion was 9% in 2021 and 7% in 2022, followed by 6% in both 2023 and 2024. In cognate, the reported unsuccessful proportions were 2% in 2022 and 1% in 2024, while no unsuccessful candidates were reported in 2023. These figures must be interpreted

cautiously because the source counts do not fully reconcile with the annual numbers of takers in several instances. The residual/unclassified category represents the difference between the reported takers and the combined pass and unsuccessful counts; it should not be interpreted as a confirmed examination outcome.

The observed changes overlap chronologically with the COVID-19 pandemic and the implementation or application of graduate examination policies, including the Graduate Program Manual of Operations (GPMO). Nevertheless, the descriptive data do not establish that either the pandemic or the policies caused the fluctuations in passing rates. The available figures also do not directly measure instructional delivery, students' preparation, advising, or other factors that might explain differences in performance. Consequently, the results support identifying areas for further investigation but do not support attributing the observed patterns to particular institutional or external factors.

Before drawing firm conclusions, the annual examination records should be reconciled with official institutional data, particularly for years and examination areas with residual/unclassified counts. The institution may also examine the cognate area more closely and consider reviewing examination preparation, advising, and academic support arrangements. Any assessment of the effectiveness of these measures or of policy implementation should use complete, verified records and an appropriate evaluation design. Overall, Table 3 provides a descriptive account of examination performance from 2015 to 2024, but the data limitations and absence of a causal analysis preclude conclusions about the effects of the GPMO or other policies on students' achievement.

Program-specific variations in the factors influencing the performance of graduate students in written comprehensive examinations

This section analyzes program-specific variation in the factors that influence students' performance on the written comprehensive examination. This objective explored how factors, such as environmental, behavioral, and cognitive, are expressed differently across programs and how these factors influence the examination outcome of the graduate students. The performance outcomes of each specific program were presented in the table below as percentages. They were categorized into successful takers (passers (%)), unsuccessful takers (failed (%)), and those who failed the same area of examination twice (failed twice (%)).

The summarized data in Table 4 indicate that the majority of graduate programs have a high passing rate, ranging from 90 to 100 percent. Specifically, 18 of the graduate programs have a 100 percent passing rate in the foundation area. Additionally, eleven programs have passing rates of 95% and 98% in the same examination area. The specialization area also shows strong performance, with twenty-two programs attaining a 100% passing rate, while eight programs had a passing rate within the 95% to 98% range. In the cognate area, the PhDFil and PhDPASA are the only doctoral programs to achieve a 100% passing rate, followed closely by PhDEF, which has a 99% passing rate.

In terms of the percentage of unsuccessful examinees, the MSBio program had the highest rates in both foundation and specialization, at 31% and 34%, respectively. The foundation area has nine (9) programs with a failure rate ranging from 13% to 31%, while in the specialization area, there have been seven (7) programs with a failure rate ranging from 14% to 34%. In the cognate area, the PhDMathEd program recorded the highest failure rate of 5%. These results suggest that several programs struggled to achieve high passing rates in one or two areas, due to environmental, behavioral, or cognitive factors that influenced students' performance on the written comprehensive examination.

Table 4.

Program-specific variations in the factors influencing the performance of graduate students in written comprehensive examinations

No. of Takers (2015-2024)	GRADUATE PROGRAMS	PASSERS (%)			FAILED (%)			FAILED TWICE (%)		
		F	S	C	F	S	C	F	S	C
202	EdDELM	92%	94%	93%	4%	3%	1%	0%	0%	0%
51	PhDDM	94%	94%	61%	6%	0%	0%	0%	0%	0%
100	PhDEF	96%	97%	99%	1%	0%	0%	0%	0%	0%
70	PhDFil	100%	100%	100%	0%	0%	0%	0%	0%	0%
84	PhDMathEd	77%	64%	77%	14%	32%	5%	0%	1%	0%
53	PhDPA	98%	96%	72%	2%	0%	2%	0%	0%	0%
44	PhDPASA	100%	100%	100%	0%	0%	0%	0%	0%	0%
96	MPA	84%	84%		13%	11%		1%	1%	
31	MAPSS	97%	100%		0%	0%		0%	0%	
239	MABioEd	86%	87%		6%	10%		0%	1%	
95	MAChemEd	82%	85%		14%	8%		0%	0%	
21	MACultEd	76%	81%		24%	5%		0%	0%	
284	MAEngEd	93%	94%		4%	4%		0.4%	0.4%	
189	MAELM	93%	95%		7%	1%		0%	0%	
4	Program Adviser of Master of Arts in Education (MAED)	100%	75%		0%	0%		0%	0%	
5	Program Adviser of Master of Arts in Education Major in Administration and Supervision (MAED-Admin&Sup)	100%	100%		0%	0%		0%	0%	
164	MAFilEd	88%	91%		11%	2%		1%	0%	
77	MAGC	82%	75%		16%	22%		0%	0%	
300	MAMathEd	88%	85%		8%	9%		0.3%	0%	
37	MAMusEd	86%	65%		8%	32%		0%	3%	
175	MAPhyEd	95%	94%		4%	4%		0%	0%	
77	MAGenSciEd	95%	94%		5%	4%		0%	0%	
28	MAPreSchEd	89%	86%		11%	14%		0%	0%	
47	MAReadEd	94%	96%		6%	0%		0%	0%	
128	MASocStEd	89%	88%		9%	8%		0%	0%	
1	MAHisEd	100%	100%		0%	0%		0%	0%	
50	MSArch	100%	98%		0%	2%		0%	0%	
46	MAIE-IT	100%	100%		0%	0%		0%	0%	
160	MAIE-TLE	93%	92%		3%	6%		0%	0%	
10	Program Adviser of Master of Arts in Industrial Education (MAIE)	80%	70%		20%	30%		0%	0%	

3	Program Adviser of Master of Arts in Industrial Education Major in Admin and Supervision (MAIE-Admin&Sup)	100%	100%		0%	0%		0%	0%
36	MALit	97%	100%		3%	0%		0%	0%
200	MAN	96%	97%		3%	3%		0%	0%
145	MAPE	96%	97%		4%	1%		0%	0%
136	MPA-HEDM	93%	86%		6%	4%		0%	0%
14	MPA-PP	93%	100%		0%	0%		0%	0%
4	MCoopM	100%	100%		0%	0%		0%	0%
174	MM	87%	86%		13%	9%		1%	0%
29	MM-HRM	100%	100%		0%	0%		0%	0%
46	MEntrep	89%	87%		9%	9%		0%	0%
34	MEcon	82%	82%		18%	15%		0%	0%
47	MFil	96%	89%		0%	6%		0%	0%
51	MIS	90%	92%		8%	4%		0%	0%
29	MSBio	62%	66%		31%	34%		0%	0%
31	Master of Science in Agriculture Major in Agricultural Education (MSAgEd); Major in Crop Science (MSCropSci); Major in Animal Science (MSAnSci)	90%	90%		3%	10%		0%	0%
8	MSAgron	100%	100%		0%	0%		0%	0%
3	MSA	100%	100%		0%	0%		0%	0%
27	MRD	100%	100%		0%	0%		0%	0%
30	MSBEM	83%	83%		10%	10%		0%	0%
19	MSF-CRM	100%	100%		0%	0%		0%	0%
5	MSF	100%	100%		0%	0%		0%	0%
2	MSFT	100%	100%		0%	0%		0%	0%
25	EdDELM - OU	100%	100%	0%	0%	0%	0%	0%	0%
22	MAELM - OU	91%	100%		9%	0%		0%	0%
42	MAEngEd - OU	83%	83%		7%	10%		0%	0%
18	MASocStEd - OU	94%	100%		6%	0%		0%	0%
10	MLGM - OU	90%	100%		10%	0%		0%	0%
65	MPA - OU	97%	95%		3%	3%		0%	0%
44	MM - OU	95%	93%		5%	5%		0%	0%
8	MSSFS	100%	100%		0%	0%		0%	0%

Foundations (F); Specialization (S); Cognate (C)

Regarding repeated failure, the Master of Arts in Biology Education (MABioEd) program has two (2) out of 239 examinees who failed the specialization area twice among all the graduate programs. Moreover, five (5) programs (MPA, MAEngEd, MAFilEd, MAMathEd, MM) have one examinee who failed the foundation area twice. In the specialization area, one examinee from each of the four (4) programs (PhDMathEd, MPA, MAEngEd, MAMusEd) has failed twice. Meanwhile, there was no record that an examinee failed the cognitive area twice

The interview responses revealed several factors that influenced graduate students' performance in the written comprehensive examinations across the different programs. A recurring factor was the long gap in academic engagement, which contributed to forgotten

concepts, outdated knowledge, and difficulty recalling previously learned materials, particularly in foundation and research courses. Students also reported inadequate review and preparation, including reviewing only selected courses rather than the full range of examination content, relying on stock knowledge, and failing to revisit courses taken several years earlier.

Limited mastery of subject matter and research concepts further affected performance, as reflected in superficial, brief, incomplete, or insufficiently developed answers. Some students encountered difficult, unfamiliar, or unexpected questions, including questions they perceived as insufficiently aligned with their coursework or previous preparation. Time constraints also contributed to unanswered items and limited opportunities to explain answers thoroughly. In addition, work and administrative responsibilities, overlapping teaching assignments, and family emergencies reduced students' time to prepare or concentrate. Other reported factors included low confidence, nervousness, stress, mental blocks, health concerns during examinations, and difficulty with technical content, music notation, or ensuring the accuracy of responses.

Some students also identified outdated competencies following curriculum revisions, the need to keep abreast of current events, and external disruptions, such as power interruptions, as challenges. These findings suggest that examination performance was influenced by a combination of academic preparation, knowledge retention, content mastery, examination demands, personal circumstances, and environmental conditions, although the specific factors varied across programs.

The narratives revealed several cross-cutting themes that contributed to students' failure in the Written Comprehensive Examination. A significant number of students experienced long academic gaps, which led to forgotten concepts and outdated knowledge. Many also admitted to a lack of preparation or review, entering the examination without adequate readiness.

Another recurring issue was the difficulty of the content, as students found the questions hard, highly technical, or misaligned with their coursework. Health and personal factors also played a major role, with accounts of sickness, poor mental state, work overload, pregnancy, and nervousness affecting performance. Exam-related conditions further compounded the challenge, such as limited time, unanswered items, and even external disruptions. Finally, confidence issues were evident, ranging from lack of mastery and mental blocks to cases of overconfidence that hindered effective answering.

The findings of this study accentuate the diverse nature of graduate student performance on written comprehensive examinations, revealing that environmental, behavioral, and cognitive factors significantly shaped outcomes. The differences in performance between graduate programs, particularly the high failure rates in MSBio and PhDMathEd, indicate that students' academic success was influenced by a complex interplay of environmental, behavioral, and cognitive factors. These results were consistent with Basic Psychological Needs Theory (BPNT), which asserts that academic motivation and performance were influenced by the fulfillment of autonomy, competence, and relatedness (González-Arias et al., 2025).

Programs with elevated failure rates may indicate unfulfilled psychological needs, including insufficient academic confidence, inadequate peer support, or a misalignment between coursework and examination content. Li and Jiang (2025) further assert that the academic intentions and outcomes of doctoral students were profoundly affected by environmental stressors, cognitive overload, and behavioral tendencies, including procrastination and overconfidence. The interviews' repeated themes of long academic gaps,

poor mental health, and exam content that doesn't match up with what students have learned support this framework. These factors were not evenly distributed across programs, indicating that the institutional setting and program design played a significant role in determining how ready students were.

Mosia et al. (2025) utilized Bayesian hierarchical modeling to reveal substantial variations in academic performance across disciplines, attributed to disparities in mathematical proficiency, institutional support, and temporal learning deficiencies. This is why some programs, such as PhDFil and PhDPASA, have high pass rates, while others, like MSBio, struggled even though they are within the same institution.

The results indicated that graduate students' performance on the written comprehensive examination depends not only on their knowledge but also on a combination of environmental, behavioral, and cognitive factors. Programs with a high passing rate (e.g., PhDFil at PhDPASA) clearly benefit from the smooth alignment of curriculum and exam content, as well as stronger institutional support. On the other hand, low-performing programs (e.g., those with low completion rates) were excluded from the analysis. MSBio and PhDMathEd students were affected by long academic gaps, a lack of review, and heavy personal or professional obligations.

The findings can be interpreted primarily through the two frameworks identified earlier: Self-Determination Theory (SDT) and metacognition. Participants' accounts of low confidence, competing responsibilities, and limited preparation may be discussed in relation to perceived competence, autonomy, and opportunities for sustained engagement; reports of incomplete review and difficulty organizing answers may be considered in relation to planning, monitoring, and evaluating one's learning.

These are interpretive connections rather than measured psychological constructs. Other theories should not be introduced as additional explanatory frameworks unless they are integrated into the theoretical framework and supported by the study design. critical to their actual performance. Therefore, both lack of preparation and overconfidence become obstacles to successful performance. Meanwhile, Mosia et al. (202) demonstrated using Bayesian hierarchical modeling that variation in academic performance often stems from disciplinary demands and institutional context, which aligns with the observed disparity between programs.

Overall, it was clear that success in the comprehensive exam depends not only on students' individual effort but also on the program's design, the quality of institutional support, and responsiveness to students' psychological and contextual needs.

Conclusions

Based on the thorough analysis of the data, the following are the conclusions of the study, along with some recommendations. These insights may provide guidance on future policy recommendations and support ongoing improvements at the Bicol University Graduate School and Bicol University in general:

> Graduate students have generally performed well over the years, with passing rates usually staying above 85% across different programs. Still, there were noticeable ups and downs, especially from 2019 to 2021, when the pandemic and the rapid shift to flexible learning made it harder for students to stay prepared and engaged. Even though results have improved since 2022, some differences between programs remain.
>
> Graduate students' performance was influenced by a mix of factors at the personal, instructional, and institutional levels. On a personal level, issues like not having enough time to prepare, taking long breaks from school, juggling work and

studies, and feeling anxious about the test all played a part. Instructionally, some students felt that what they learned in their classes did not always match what was on the exam. At the institutional level, limited access to things like review sessions, mentoring, and academic counseling made it harder for some students to succeed.

Looking at the trends, the introduction of the revised BUGS Policy/Graduate Program Manual of Operations (GPMO) had mixed results. On one hand, the new policy helped clarify how exams are structured and what is expected of students. However, during the transition period, pass rates actually dropped, which implies that rolling out new policies without providing enough training or academic support can make things more difficult for students. The improvement in pass rates in recent years shows that students and faculty are beginning to adjust and adapt to these changes.

Differences in passing rates across programs point to unique challenges in each field. Programs like PhDFil and PhDPASA have consistently high passing rates. It may have been influenced by a well-aligned curriculum, strong mentoring, and steady support from faculty and program advisers. In contrast, programs such as MSBio and PhDMathEd have struggled more, often because of heavier course loads, long gaps between studies, and fewer opportunities for review due to conflicting schedules between graduate studies and work.

Recommendations

In light of these conclusions, the following recommendations are being put forward to help guide future policies and support ongoing improvements at the Bicol University Graduate School:

Following the decentralized structure of the BU Graduate School, the delivering academic units and respective programs may offer regular review classes, mock exams, and writing workshops to help all graduate students build confidence and prepare effectively for comprehensive exams.

The administration, in collaboration with the respective programs and the guidance coordinator, may set up peer mentoring and accessible counseling services so students can get both academic guidance and support for managing stress and motivation.

The University should continually assess the impact of new policies and gather feedback from students, faculty, and stakeholders to make sure that the examination procedures stay fair and aligned with the national standards, like CHED and PQF.

The institution may reorient the respective programs on the flexible conduct of the written comprehensive examinations, as already provided in the existing policy, to provide reasonable opportunities for retakes, especially for working students or those returning after a long break, while maintaining academic standards. Orientation must be given to the retakers before filing for the second attempt.

In the curriculum revision, monitoring and evaluation, programs must ensure that comprehensive exams reflect what students learn in their courses and meet national competency standards, making exams both fair and relevant.

The BUGS administration must offer training/enhancement/orientation for faculty, focusing on effective exam creation, outcome-based assessment, and student-centered teaching.

Encourage good study habits, collaborative learning, and stress management by offering workshops, study groups, and refresher programs for graduate students who need extra support.

Ethical statement

This study was conducted in accordance with the ethical principles applicable to scientific research. Participation was voluntary, based on free and informed consent; anonymity and data confidentiality were guaranteed, as was the right to withdraw at any time. All sources used have been duly cited, ensuring academic integrity and adherence to research ethics standards.

Conflict of interest statement: The authors declare that they have no financial, commercial, personal, or academic relationships that could be perceived as influencing the results or interpretation of this manuscript.

Artificial intelligence use declaration: Generative artificial intelligence tools were used solely for linguistic editing, reference standardization, and improvement of textual clarity. The tools were not employed to generate ideas, hypotheses, interpretations, analyses, results, or scientific conclusions. The authors confirm that the manuscript contains no fabricated, manipulated, or fully AI-generated content, and that all information has been manually verified. The authors assume full ethical and scientific responsibility for the final content.

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Data availability

The data underlying the research are reported in the article

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