



Evaluating MCU Pharmacy Graduates' Board Exam Success and Gaps: Insights from 2019-2024

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ABSTRACT

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Maintaining strong board examination performance is crucial for pharmacy schools as it signifies educational excellence and graduates' readiness for professional practice. This study examines the performance trends of Manila Central University (MCU)-College of Pharmacy graduates from 2019 to 2024, focusing on the comparison between their success in the first attempt immediately after graduation and in subsequent attempts. The study aims to uncover the factors contributing to these performance outcomes and propose strategies to enhance student success in the licensure exams. Using a descriptive phenomenological approach and documentary analysis, the research investigated the experiences of twenty MCU pharmacy graduates who took the pharmacist licensure examination (PLE) multiple times within the specified period. Colaizzi's method of phenomenological analysis was employed to extract and categorize significant statements from participants' lived experiences. Three main themes emerged as key contributors to higher success rates



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on the first attempt: *Recency of Knowledge*, *Dedicated Review Period*, and *Strong Support System*. Additionally, selections cited *Lack of Confidence* and *Lack of Focus* as factors affecting their subsequent examination attempts. The study proposes several strategies to improve board exam outcomes, including integrating exam preparation into the curriculum, strengthening review programs, enhancing psychological and emotional resilience, and fostering mentorship from faculty and alumni.

INTRODUCTION

The licensure examination serves as a global benchmark for certifying healthcare professionals, ensuring they possess the required knowledge and skills to practice safely and competently. In pharmacy, licensure examinations play a vital role in maintaining professional standards, upholding patient safety, and enhancing the quality of healthcare delivery. Globally, these examinations are designed to assess competency in areas such as pharmaceutical chemistry, pharmacology, clinical practice, and quality assurance, contributing to the development of pharmacists equipped to meet the demands of modern healthcare systems. Success rates in licensure examinations are often viewed as indicators of the effectiveness of educational programs and the preparedness of graduates to enter professional practice (Martir, 2019; Raagas, 2020; Smith & Johnson, 2021; World Health Organization, 2023; FIP, 2022; Roberts & Williams, 2019).

In the Philippines, the Pharmacist Licensure Examination (PhLE) is a mandatory requirement under the Philippine Pharmacy Act (R.A. 10918), which regulates the practice of pharmacy to ensure public safety. Administered twice a year by the Professional Regulation Commission (PRC), the PhLE evaluates candidates across six key modules: Pharmaceutical Chemistry, Pharmacognosy, Practice of Pharmacy, Pharmacology-Pharmacokinetics, Pharmaceutics, and Quality Assurance/Quality Control. To pass, candidates must achieve a general average of 75% or higher, with no rating below 50% in more than two subjects (Philippine Regulation Commission, 2022; Santos, 2023). Pharmacy schools, such as Manila Central University (MCU), aim to consistently perform above the national passing rate, as strong outcomes reflect well on institutional quality and support accreditation efforts, partnerships, and faculty development. Strong performance on board exams is also critical for attracting top students and faculty, maintaining accreditation, and securing industry partnerships (Cruz & De Guzman, 2023; Mehta, 2022).

Despite these efforts, challenges remain in bridging the gap between first-time takers and repeat takers of the PhLE. From 2019 to 2024, MCU College

of Pharmacy graduates demonstrated strong performance on their first licensure attempt, typically taken immediately after graduation. However, a notable decline in success rates among repeat takers highlights potential weaknesses in preparatory programs, curriculum design, or student support systems. The study by Caperida (2024) emphasizes the importance of building study habits and structured learning environments to enhance student success. This disparity underscores the need for a more robust approach to addressing the specific needs of repeat examinees and enhancing overall outcomes. This study seeks to investigate the underlying causes of these performance gaps and develop targeted strategies to improve licensure examination success rates for both initial and subsequent attempts.

FRAMEWORK

In the realm of pharmacy education and licensure examinations, several theoretical frameworks provide a foundation for understanding the factors influencing success. The Educational Quality Framework, proposed by Miller (2022), emphasizes aligning curriculum design, teaching strategies, and institutional support to enhance student outcomes. Knowledge Decay and Retrieval Theory, as explored by Roediger and Karpicke (2023), focuses on the significance of timely review and retrieval practice to mitigate memory loss and strengthen knowledge retention. Lastly, Cognitive Resources Theory underscores the role of focus, resilience, and confidence in navigating high-stakes tasks, such as the Pharmacist Licensure Examination.

This study utilizes these frameworks to analyze the factors impacting licensure examination performance among MCU pharmacy graduates. The Educational Quality Framework provides a lens through which institutional strategies, such as integrating review programs into the curriculum, can be evaluated. Knowledge Decay and Retrieval Theory supports the finding that immediate licensure attempts result in higher success rates, highlighting the critical role of recency in knowledge application. Additionally, Cognitive Resources Theory explains the challenges faced by retakers, emphasizing the need for psychological and logistical support to enhance focus and confidence.

By integrating these frameworks, the study offers a comprehensive understanding of the interplay between academic preparation, environmental factors, and psychological resilience. These insights not only guide curriculum enhancements and support mechanisms but also inform strategies to foster long-term professional success for pharmacy graduates.

OBJECTIVES OF THE STUDY

The specific objectives of the study are to (1) Identify factors contributing to higher performance in the first board exam attempt compared to subsequent attempts, (2) analyze graduates' perceptions of the challenges and opportunities related to the licensure exam, (3) propose strategies to improve student outcomes in both first and repeat board exam attempts.

METHODOLOGY

Research Design

A descriptive phenomenological research design, integrated with documentary analysis, was employed to explore the performance and experiences of Manila Central University (MCU) pharmacy graduates in the Pharmacist Licensure Examination (PhLE) from 2019 to 2024. This approach aimed to capture both quantitative data, such as examination performance records obtained from the Professional Regulation Commission (PRC), and qualitative insights derived from graduates' lived experiences. A triangulation procedure, combining these data sources, was utilized to provide a comprehensive understanding of the phenomenon under investigation.

Research Site

The study was conducted at Manila Central University (MCU) from August to October 2024 and utilized records from the PRC, which oversees the administration of the PhLE. The focus was on graduates from MCU's College of Pharmacy who took the licensure examination between 2019 and 2024. Virtual platforms, including phone calls and social media applications, were employed for qualitative data collection to ensure accessibility and convenience for participants.

Research Participants

The study included 20 pharmacy graduates from MCU who took the PhLE between 2019 and 2024 and failed the examination one to three times before eventually passing. Participants were purposively selected based on their willingness to share their experiences and provide insights into factors that influenced their licensure performance. Faculty members were also involved as key informants to validate findings and offer perspectives on institutional factors affecting licensure outcomes.

Instrumentation

Quantitative data were gathered from official PRC records, detailing the performance of graduates in the PhLE, including their scores and the subjects in

which they performed well or poorly. For qualitative data, a structured interview guide was developed to explore participants' experiences and perceptions. The guide included open-ended questions addressing themes such as preparation strategies, challenges faced during the examination, and perceived institutional support. Interviews were audio-recorded with participants' consent and subsequently transcribed for analysis.

Data Collection

Data collection was conducted in two phases:

Quantitative Phase: Examination performance records were retrieved from the PRC with the necessary permissions. These records provided objective data on the trends and outcomes of the PhLE for MCU graduates.

Qualitative Phase: Semi-structured interviews were conducted with participants via phone and social media platforms. To ensure depth and consistency, faculty members were also interviewed using a separate guide tailored to institutional factors. Participants provided written consent, and anonymity was maintained throughout the process.

Data Analysis

Quantitative data were analyzed descriptively, using measures such as frequencies, percentages, and averages to identify performance trends. Qualitative data were analyzed using Colaizzi's seven-step method for phenomenological research, which involved: (1) Reading all participants' descriptions to acquire a sense of their experiences. (2) Extracting significant statements related to the phenomenon. (3) Formulating meanings from these statements. (4) Organizing meanings into clusters of themes. (5) Developing an exhaustive description of the phenomenon. (6) Identifying the fundamental structure of the phenomenon. (7) Validating findings by returning to participants for confirmation.

Research Ethics Protocol

Ethical clearance for the study was obtained from the MCU Ethics Review Board. Informed consent was secured from all participants, and confidentiality was strictly maintained. Participants were assured of their right to withdraw from the study at any point without repercussions. Data were anonymized and securely stored to protect participants' identities.

RESULTS AND DISCUSSION

Exam Performance Trends (2019-2024)

Between 2019 and 2024, 234 MCU pharmacy graduates took the Pharmacist Licensure Examination (PhLE). Of these, 165 graduates successfully passed (71%), while 69 failed (29%). A closer analysis reveals notable trends in examination performance, with higher passing rates observed in August 2019, June 2021, November 2021, and November 2023. Conversely, lower passing rates were recorded in March 2019, April 2022, and April 2023. These findings suggest that graduates tend to perform better in their first PhLE attempt immediately following graduation. The pattern aligns with findings by Roberts and Wang (2022), Zhao and Huang (2024), who identified a correlation between recent academic exposure and examination success in healthcare licensure exams.

Factors Contributing to Higher First-Attempt Performance

Graduates who took the PhLE immediately after graduation had higher success rates compared to those who retook the exam later. The following themes emerged from the data analysis: *Recency of Knowledge, Dedicated Review Period and Strong Support System.*

Recency of Knowledge

Freshly acquired knowledge and recent exposure to academic coursework enhance graduates' ability to recall and apply concepts during the PhLE. Participants highlighted the benefits of consistent preparation and familiarity with examination formats. Selected responses include:

"The examination format during college time is the same as the format during board exam which is a great approach for us" (E14)

"The questions from the board exam was revolved on the same knowledge that I was teach in school and review centers." (E12)

"Review notes from past lessons in college and booklets given by review centers." (E2)

"PACOP, Cascabel, Katzung and other Pdf books in Pharmacy really helped me a lot. The resources that I used help me to gain knowledge and mastering all the principles that I forgotten already. Also by practicing question & answer portion and it's rationale by number." (E10)

"PACOP reviewer, final coaching, review center, coaching with my professor, notes posted from Twitter now called as X app, college notes. It helps me the easiest way to utilized notes especially those with lots of terms to study with." (E5)

Having a solid stock knowledge base is crucial for passing the pharmacy board examination as it forms the foundation of pharmaceutical sciences and clinical practice. This knowledge encompasses essential facts, principles, and concepts that are fundamental to pharmacy practice and can significantly affect exam success (Roediger & Karpicke, 2023; Smith & Johnson, 2023). The selections showed that they have strong foundation during College through the availability of several resources and preparation thorough practice exams and test-taking strategies. Some also mentioned that they have a better recall ability as they still have access to their resources immediately after graduation.

Additionally, some of the selections mentioned that they took the board examination right after graduation because of they think that they are more focused and have fewer personal and professional distractions immediately after graduation. This is congruent with the research of Jones and Lee (2021) stating that many student expressed that taking the board examination immediately after graduation allowed them to maintain a high level of focus on their studies without the distractions of starting a new job or managing personal commitments

The selections stated:

“I immediately took the board examination because I think I am more ready at that time. I can easily recall topics discussed in the 6 modules of the board exam.”(E1)

“Since I had just attended a review center and everything is fresh, I believe I will pass the board exam back then, that’s why I took the board exam right away” (E3)

“The first time I took the board exam, I have no other distractions compared to my second & third attempt. My only goal then was to pass the board exam, nothing else bothers me.” (E17)

The faculty members also shared the same responses with the selections. All agreed that graduates might feel more confident and less stressed immediately after finishing their BS Pharmacy degree as they have freshly acquired knowledge and skills and the academic environment is still fresh and supportive. They shared:

“Since they are fresh graduates, I believe they are more confident that they will pass the board exam.” (F1)

“The mock board examination and coaching given by the College also add up to the readiness of the graduates to take the board examination.” (F3)

The faculty also noted that a key factor contributing to the higher passing rates in the first board examination, compared to the second, is the difference in candidate demographics. The first examination cohort is typically dominated by fresh graduates, whereas the second mostly comprises retakers or individuals who have been out of academic practice for some time. This distinction suggests that recent graduates benefit from being more up-to-date with their knowledge and

exam preparedness, unlike those who experience a gap since their studies. This observation is consistent with the demographic data reviewed by the researcher.

Dedicated Review Periods

Many educational institutions offer review centers or preparatory courses immediately following graduation, providing focused and intensive review sessions. At MCU, fourth-year students must pass the *Pharmaceutical Seminar*, a preparatory course for the board examination, as a requirement for graduation. This course includes lectures covering all subjects in the board examination, along with pre-tests and post-tests. From 2019 to 2021, this course was part of the old curriculum, taken during the second semester. Starting in 2022, it was replaced by *Pharmaceutical Course Audit 1 and 2*, which are spread over two semesters in the final year as part of the new curriculum.

After graduation, students are free to choose their review centers. They are also required to return to MCU to take a mock board examination to assess their readiness for the licensure exam. Additional support, such as coaching and practice exams, are provided to graduates who do not perform well in the mock exams to help improve their preparedness. Graduates acknowledged the role of these preparatory programs in their success:

“Right after graduation, we already enrolled in review centers. I had a good time management. I studied mid-day to evening with minimal breaks.” (E14)

Study environments also played a critical role in examination outcomes. Graduates with consistent and conducive study areas reported higher confidence and success rates. Research by Lee and Chen (2022) and Mehta (2022) demonstrates that well-structured study periods and environments positively influence performance in professional exams. Similarly, Pacuno and Sanchez (2020) found that teachers’ instructional competence and the provision of a conducive learning environment significantly impact students’ academic performance, emphasizing the role of structured and supportive study settings in achieving higher success rates. Graduates noted challenges in replicating these conditions when attempting the exam at a later stage due to work commitments or lack of a stable study space (E7, E13):

“I have a very good study place during the first take compared to the second time, I took the board examination. The second time I took it I have to look for a conducive study area after my work. There were also sometimes, I have to study during duty. This is harder than the first time I took the board examination.” (E7)

“There were continuous changes in my study area. I needed to find a permanent

area to study and a quiet one to avoid disturbances the second time I took the board exam.” (E13)

E2 on the other hand, mentioned that she had a hard time focusing the second and third time she took the board examination because she is employed already. She said:

“I think I managed my time more wisely during the first time I took the board examination. The second and the third time, I was already working as a pharmacy assistant. I had a hard time balancing my work and review during that time. I cannot request for a vacation leave.” (E2)

The faculty also agreed that the strong study habits and routines developed by graduates during their academic years remain intact and effective immediately after graduation, but tend to decline over time. They noted:

“The reason why those retakers failed in the second time is because their priorities changed. Some are working already, some with families. Their focus changed overtime. Passing the board for them might be an add-on now, not a necessity now. They just want to try and try.” (F4)

“Graduates are more focused post-graduation. They know that passing the board examination is a must and they have to do it as they believe they are really prepared now.” (F5)

Graduates who took the board exam immediately after graduation perceived having a more structured schedule and environment compared to those who delayed taking the exam (Smith & Johnson, 2023). The selections’ perceptions were shaped by the academic momentum and disciplined study routines established during their college years, which they found difficult to replicate when attempting the board examination for a second or third time.

Strong Support System

A robust support system can significantly alleviate the stress and anxiety associated with board exams. Emotional support from family, friends, and peers can help students manage their mental health, which is crucial for optimal performance. When asked about their support system, the selections mentioned about the support and encouragement they had received mostly from their families and friends. They noted:

“I really felt pressured then but my family believed that I will pass the board examination and that pushed me to take the board exam immediately after graduation.” (E18)

“Me and my friends do group studies especially on the difficult topics in Module 2 & 4 and I guesses that helped me a lot to be more confident in answering difficult questions.” (E3).

“I simply persuaded myself that I could handle the tension I was under before, during, and after the exam. I also hope to conquer it, whether I pass or not. However, being around by those who constantly encourage and mentor me makes me believe to do my best.” (E8)

“I think it helps a lot if you know that you have your friends are also experiencing the same difficulty. It somehow validates what you feel and since we encounter the same difficulties, we help each other.” (E9)

A study by Lo et al. (2022) found that medical students who reported strong family and peer support experienced lower anxiety levels and performed better on their exams. Additionally, the role of organized support activities, such as mock exams and coaching sessions also foster readiness among graduates (Zhao & Huang, 2024). The responses from the selections in this study indicate that collective support from family and friends not only improved their mental well-being but also enhanced academic outcomes by fostering a sense of belonging and reducing feelings of isolation during these challenging times.

Challenges in Subsequent Attempts

The selections were also asked regarding the challenges they had encountered during the subsequent board examination attempts. Two themes emerged based from their answers: *Lack of Confidence & Lack of Focus*.

Lack of Confidence

Lack of confidence can significantly affect board examination performance, leading to increased anxiety, difficulty concentrating, and second-guessing answers, which can ultimately result in lower scores (Brown & Williams, 2021; Johnson & Martinez, 2021). Participants who failed on their second and third attempts expressed that their initial failure diminished their confidence, which impacted both their preparation and performance during subsequent exams. They shared:

“A day before the board exam, I was really nervous. Even though, I reviewed, I still think I am not that well prepared. I lack of confidence because this is the third time I will take the board exam. I anticipate failing again.” (E17)

“I thought I learned from the first try I failed but there were unexpected questions about topics that were not brought up in my first try, especially in Module 4. No matter what I do, I encountered mental block because of it.” (E 1)

Lack of Focus

Focusing for and during the board examination is important to ensure the graduates can navigate complex questions accurately and confidently given the time allotment per module. One selection shared:

During exam whenever I leave 2-3 questions un-answered, because I'll answer it for later. But because of it, I would sometimes shade the un-answered item which is bad because I have to erase it.” (E 16)

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“ADR, Medicinal chemistry, Pharmacology and Microbiology--- these are all connected. Because they were all mixed, in one question three topics are combined among these subjects. They are confusing, so dissecting the questions is necessary because first sentence sometimes contradicts the second sentence. This, I had a hard time analyzing during the exam.” (E7)

“Module 2 was the very challenging and most difficult for me during the Day 1 because of this, I had a hard time focusing on the rest of the modules until Day 2. I think this might be the reason I failed in my first attempt.” (E12)

Students who experienced distraction and lack of focus during the pharmacy board examination were significantly more likely to make careless errors, manage their time inefficiently, and exhibit lower recall ability, ultimately resulting in decreased overall performance (Jackson & Miller, 2022; Maine Board of Pharmacy, 2023). The selections experiencing a lack of focus affected their comprehension to navigate difficult questions, make them more prone to misread and overlook important details, lead them to spend too much time on certain questions than the incomplete sections and hamper their ability to recall learned information. They cited difficulties with specific modules, such as Modules 2, 3, and 4, which were perceived as more technical and time-consuming.

The faculty members also believed that aside from being mentally prepared, graduates should also be prepared emotionally when they take the board examination. They said that as the mentors they give all the emotional supports that the graduates need them to be more confidence during board examination. They shared:

“After they apply in the board examination, I give several practice sets so that they can be more confident in answering different sets of questions.” (F2)

“We also organize send-off activities to the board exam takers. I believe seminar conducted by the Guidance Department focusing on overcoming anxiety & stress during board examination really helped our graduates.” (F1)

They also agree that as faculty they can only do so much, passing the board examination is still up to the graduates. They said:

“After all the preparations, it still depends on the graduates if they will pass the board examination. If they let these emotions conquer them, if they let them in, they will really fail the board examination.” (F2)

“I know some graduates who are good in College but did not passed the examination because of panic. They cannot give full focus once they encountered questions that they do not usually encounter. We have to address this by giving many practice exams in all professional courses and organizing activities to practice their test-taking skills and time management skills as well.” (F4)

Creating a positive and supportive learning environment where students feel comfortable seeking help can significantly reduce anxiety and improve focus, leading to better academic outcomes (Johnson & Martinez, 2021). Workshops on effective time management and study skills have been shown to help students improve focus and organizational abilities, ultimately enhancing their academic performance (Roberts & Williams, 2022). Based on the participants' responses, faculty members believe that while passing the board examination ultimately depends on the individual graduate, providing a supportive learning environment and equipping students with essential skills increases their chances of success.

Areas or Topics That Is Difficult In the Board Examination

Addressing challenging topics allows board exam takers to seek additional support or resources, enhancing their understanding and confidence during the examination (Maine Board of Pharmacy, 2023). The selections were asked to identify areas where they encountered difficulty, with the majority citing Modules 2, 3, and 4. They noted that Module 4 questions were often situational, while Module 2 questions were more technical. Additionally, due to the complex nature of the questions, the selections emphasized the importance of dissecting each question thoroughly, which they found time-consuming.

Selections were also asked to recall specific topics from their board examinations. These topics were shared with faculty and subsequently integrated into student examinations and practice tests, aiming to better prepare future board exam takers.

Strategies to Address and Improve Student Outcomes in Both Examinations

To enhance PhLE outcomes, several strategies were recommended. Integrating board exam preparation into the curriculum ensures that students develop familiarity with the examination format and essential topics throughout

their academic journey. Enhanced review programs and mock board exams provide opportunities for focused practice and self-assessment, improving readiness and confidence. Strengthening support systems, such as family, peer, and faculty support, fosters a positive and encouraging learning environment. Additionally, offering workshops on time management and stress reduction equips graduates with practical tools to navigate the pressures of high-stakes exams more effectively (Roberts et al., 2019; Mehta, 2022).

These strategies align with findings by Roberts and Williams (2022), which emphasize the importance of comprehensive preparation and psychological support in improving professional licensure outcomes. To further enhance the strategies aimed at improving student outcomes in licensure examinations, additional insights can be considered. For instance, Garcia (2013) explored the impact of tutorial sessions and weekend classes on academic performance, highlighting the effectiveness of supplementary instruction in reinforcing learning and addressing individual student needs. Similarly, Valencerina (2013) examined the effect of cooperative learning methods anchored on multiple intelligence theory, finding that collaborative approaches tailored to diverse learning styles can significantly enhance student achievement in mathematics. These findings suggest that incorporating varied instructional strategies, such as cooperative learning and targeted tutorials, can address different learning preferences and potentially improve readiness for high-stakes examinations.

CONCLUSION

The study identifies several key factors that contribute to the higher board examination performance of MCU College of Pharmacy graduates immediately after graduation compared to subsequent attempts. These factors include *Recency of Knowledge*, a *Dedicated Review Period*, and a *Strong Support System*. Graduates often reported experiencing *Lack of Confidence* and *Lack of Focus* during their board examination attempts, particularly in more challenging modules such as Modules 2, 3, and 4.

To improve board examination outcomes, a comprehensive strategy is required. This includes integrating board exam preparation into the curriculum, enhancing review programs, strengthening exam readiness, supporting psychological and emotional resilience, and offering mentorship from faculty and alumni. Building a strong support system by encouraging family members and significant others to actively participate in students' review sessions, providing consistent emotional and moral support throughout their preparation, is also crucial. Implementing these strategies is essential for improving graduates'

preparedness and performance. Continuous feedback, performance tracking, and engagement with experienced pharmacists further equip graduates to succeed in both initial and subsequent board examinations, fostering long-term professional growth and boosting their confidence in professional practice.

TRANSLATIONAL RESEARCH

The findings of this study can be translated into actionable insights to benefit various stakeholders. The results can be disseminated through journal articles, newsletters, conferences, social media, and other platforms to share best practices in board examination preparation. Additionally, academic institutions can use these findings to revise and enhance their pharmacy curriculum and review programs, ensuring alignment with the competencies assessed in the Pharmacist Licensure Examination. Faculty and alumni mentorship programs can also be established to provide additional guidance and support to future graduates. Furthermore, these findings can inform policymakers and accreditation bodies, highlighting the importance of structured review periods and emotional resilience training in professional licensure success. Finally, the study's insights can serve as a resource for future research aimed at improving licensure examination outcomes and professional readiness across healthcare disciplines.

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