

Uncorking the Bottleneck of Low Pass Rates in the Philippine Radiologic Technology Licensure Exam

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Abstract

Persistently low pass rates in the Philippine Radiologic Technology (RT) licensure exam raise concerns about the competency of graduates entering the healthcare workforce. This commentary describes the potential reasons behind this bottleneck, exploring a possible mismatch between the education provided by RT programs and the competencies assessed by the licensure exam. The author argues for a multi-stakeholder approach to address this issue and ensure a competent RT workforce in the Philippines.

Keywords: licensure exam; pass rate; Philippines; Radiologic Technology

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The Philippines, an archipelago nation in Southeast Asia, is actively strengthening its healthcare workforce to deliver high-quality care to its citizens. A key institution in this endeavor is the Professional Regulation Commission (PRC). The PRC, a government agency, ensures public safety and competency by regulating and licensing various professions, including Radiologic Technology (RT).

RT is an allied health field that specializes in the technical application of radiation for diagnosis and treatment. Here's where Republic Act Number 7431, or the "Radiologic Technology Act of 1992," comes into play. This Act mandates that RT graduates pass an annual licensing examination administered by the Board of RT, established under the PRC. Passing this exam is crucial for graduates to become registered Radiologic Technologists and legally practice their profession.

Over the past five years (2018-2023), the overall pass rate for the RT licensure exam has fluctuated between 31.12% and 55.57% [1]. This translates to an average pass rate of only four out of ten examinees succeeding. Even more concerning is the average pass rate for repeaters, which is around 25% (Table 1). In contrast, the first-time pass rate is slightly higher at 58.22%. However, this trend is significantly different from that of the American Registry of Radiologic Technologists (ARRT), the equivalent regulatory body for Radiologic Technologists in the United States (Table 2). Data shows that the average five-year pass rate (2018-2023) for first-time examinees on the radiography certification assessment alone is 85.78% [2].

Table 1: Philippine RT licensure exam pass rates by year (2018-2023).

Year	First-time pass rate	Repeater pass rate	Overall pass rate
July 2018	58.97	28.60	47.23
July 2019	63.91	33.45	51.90
May 2021	53.72	22.00	40.48
December 2021	44.75	29.04	36.12
December 2022	57.62	14.67	40.32
June 2023	58.73	27.99	31.12
December 2023	69.83	20.45	55.57
Average	58.22	25.17	43.25

Table 2: ARRT radiography exam first-time pass rates by year (2018-2023).

Year	First-time pass rate
2018	89.0
2019	88.2
2021	83.8
2022	83.5
2023	84.4
Average	85.78

The low pass rates in the Philippine RT licensure exam signify a potential gap between the education and training provided by RT programs and the competencies expected by the exam. Several factors might contribute to this disparity. One possible explanation lies in the quality of curriculum and instruction within the programs themselves. Although the Board of RT provides a table of specifications for each subject tested on the licensure exam, the curriculum and its syllabi may not adequately cover all the necessary theoretical knowledge and practical skills required by the exam. In contrast to countries like Australia and the United States with separate specialization programs for radiological sciences (e.g., CT scan, MRI), the Philippines condenses these fields into a single semester, following the Philippine Commission on Higher Education (CHED) guidelines outlined in CHED Memorandum Order Number 7 series of 2018. This compressed timeframe makes it challenging to comprehensively cover at least four complex specializations within a single semester. While CHED promotes outcomes-based syllabi that emphasize practical application, some instructors might still rely on traditional methods that prioritize rote memorization. This approach could hinder students' development of critical thinking and problem-solving skills, crucial for success on the licensure exam and in their future careers.

Furthermore, the availability of qualified and experienced faculty members directly impacts student learning. While CHED mandates a Master's degree in science, education, or administration, many qualified professionals opt for higher-paying clinical positions. This creates a shortage of educators with strong academic backgrounds and relevant practical experience, potentially hindering knowledge transfer and skill development.

Limited access to advanced technology hinders students' exposure to modern medical practices and can disadvantage them on situation-based components of the licensure exams. The Philippines' lower-middle-income status exacerbates this challenge, as expensive equipment like ultrasound machines and digital radiography systems may be scarce in many higher education institutions (HEIs). While the 11-month internship provides clinical experience, access to advanced technology in HEIs could further enhance their learning.

The high-stakes nature of the licensure exam can itself contribute to student anxiety. This pressure can impede their ability to perform at their best, creating a stressful cycle. HEIs, facing pressure to maintain high pass rates, may inadvertently contribute to student anxiety by transmitting that pressure.

Exam content and its alignment with current industry practices are also crucial considerations. If the exam heavily emphasizes outdated or less relevant topics, it could disadvantage students whose education focuses on newer technologies and protocols.

The role of student preparation outside the classroom cannot be discounted. Factors like inadequate study habits, time management issues, and limited access to high-quality learning resources could contribute to lower pass rates. Furthermore, socioeconomic disparities can exacerbate these challenges. Students from financially disadvantaged backgrounds may lack resources for supplementary review materials or preparatory courses, putting them at a disadvantage.

The persistently low pass rates in the Philippines' RT licensure exam call for a collaborative effort among key stakeholders like CHED, PRC, and academic institutions. Research-based strategies

are needed to bridge the gap between education and the demands of the exam.

A curriculum overhaul, informed by recent research on effective learning methodologies, is crucial. Studies highlight the benefits of incorporating problem-based learning (PBL) and case studies into the curriculum [3,4]. These methods encourage students to actively engage with course material, apply their knowledge to real-world scenarios, and develop critical thinking skills necessary for the exam. For instance, in a radiographic positioning class, students might be presented with realistic patient scenarios requiring them to choose various radiographic techniques. Through collaborative research, discussion, and hands-on practice, they can develop effective solutions and deepen their practical skills.

Current radiological sciences courses, often condensed into one or two semesters, could benefit from several improvements. Core courses can be strategically distributed across semesters to allow students to focus on one or two radiological sciences courses at a time. This approach fosters a deeper understanding compared to a condensed schedule. Students can also be given more time for hands-on experience in these areas to solidify their theoretical knowledge. Guest lectures from specialists in each radiological modality can further enrich the learning experience. Collaboration with relevant professional societies to advocate for revised CHED guidelines could lead to an increase in allocated time for in-depth training, ultimately improving the quality of graduate skill sets.

Investing in faculty development is equally important. Studies advocate for ongoing training programs for RT educators [5-7]. When they are exposed to the latest advancements in the field and pedagogical techniques, their ability to deliver engaging and effective instruction can be enhanced. Additionally, they can collaborate with practicing Radiologic Technologists to bridge the gap between theoretical knowledge and practical application.

Exam performance improves when test anxiety is addressed [8]. Research demonstrates the effectiveness of incorporating mindfulness practices and relaxation techniques into the curriculum [9,10]. Similarly, studies highlight the benefits of mock exams and workshops on test-taking strategies [11,12], which can equip students with the tools to navigate the pressure of the RT licensure exam.

To guarantee the continued relevance of the exam to industry demands, regular content evaluations are essential. A periodic review process by a panel of subject matter experts, including both educators and practicing professionals in the field, should be established. This collaborative approach ensures the exam accurately reflects the most up-to-date skills and knowledge required for success.

Students should also be supported even beyond the classroom. Research suggests that providing access to online learning platforms and high-quality study materials can significantly improve exam performance [13]. Additionally, studies emphasize the importance of mentorship programs [14,15], which can connect students with experienced professionals who offer guidance and support throughout their academic journey.

To address socioeconomic disparities and ensure equal opportunity, scholarship programs and financial aid initiatives must be specifically targeted towards RT examinees. While existing programs from the Philippine government and private institutions

are a positive step, they could be expanded to cover the high costs of review materials and preparatory courses. Additionally, HEIs can establish free review programs that would directly benefit their graduates and increase their pass rates. Review centers can offer discounted rates, and partnering with HEIs or government agencies could make their services more accessible. Government scholarships can also be made needs-based, prioritizing those with financial limitations.

The alarmingly low pass rates in the Philippine RT licensure examination demand immediate action. Collaborative efforts among regulatory bodies, academic institutions, and all stakeholders are crucial to enhance the quality of RT education. Rigorous research should be conducted to pinpoint the factors within institutions that contribute to the low pass rates. This will pave the way for the development of targeted improvement mechanisms.

Once effective strategies are implemented, stakeholders can work towards uncorking the bottleneck that restricts the flow of competent Radiologic Technologists into the Philippine healthcare system. However, improving pass rates goes beyond simply addressing workforce quantity. It is about guaranteeing the quality of patient care by ensuring graduates possess the necessary knowledge and skills to excel in their practice. By investing in a more robust educational experience, the Philippines can empower future generations of Radiologic Technologists to deliver exceptional patient care, ultimately safeguarding the well-being of Filipinos.

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Conflict of Interest Statement

The authors declare no conflict of interest.

Author Contributions

Both authors have contributed equally. They have read and agreed to the published version of the manuscript.

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