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Research Article

The Impact of Laboratory Facilities Availability on Criminology Licensure Examination Performance at St. Anne College Lucena, Inc.

Leonardo A. Ella Jr.[1*]

[1]*College of Criminal Justice Education/ Pambayang Kolehiyo ng Mauban, Philippines, pkm_maubanin@yahoo.com*

Correspondence should be addressed to the *Corresponding Author; leoella441@gmail.com
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ABSTRACT

This study examined the relationship between the adequacy of criminology laboratory facilities and Criminology Licensure Examination (CLE) performance at St. Anne College Lucena, Inc. Researchers collected data from 80 respondents, using a descriptive-correlational design composed of recent CLE examinees and criminology faculty members. CHED-aligned evaluation tools assessed laboratory adequacy; institutional CLE results provided performance data. Results showed that laboratory facilities were rated fully adequate (overall weighted mean = 3.84) and functionally complete (mean = 4.00). Pearson's r analysis revealed a weak but positive correlation between laboratory adequacy and CLE performance (r = 0.26). The CLE passing rate of first-time takers (68%) was notably higher than that of repeaters (42%). Qualitative findings highlighted that laboratory use strengthened theoretical understanding, practical skills, and exam confidence. The study concludes that while adequate facilities support improved performance, other factors such as review integration and targeted support for repeaters remain critical. It recommends modernizing laboratory equipment, aligning simulations with CLE competencies, and embedding lab-based review exercises to enhance licensure outcomes.

Keywords: Laboratory Facilities, Criminology Licensure Examination (CLE), Student Performance

1. INTRODUCTION

Across many regions of the world, the quality of academic resources—particularly laboratory facilities—is closely linked to students' performance in professional certification and licensure examinations. In the field of criminology, access to simulation laboratories, forensic equipment, and investigative tools is crucial for students to develop the critical practical skills necessary for real-world law enforcement and forensic practice.

Studies in the Asia-Pacific region, including countries like South Korea, reveal that exposure to applied learning environments significantly improves performance in professional certification exams compared to reliance solely on theoretical instruction. This regional context requires educational institutions to move beyond abstract theory, preparing graduates for the diverse legal and criminalistic challenges unique to this part of the world.

In the Philippine context, the Professional Regulation Commission (PRC) administers the Criminology Licensure Examination (CLE) to ensure professional qualification. However, disparities in educational infrastructure are a long-standing challenge for Higher Education Institutions (HEIs). Many HEIs struggle to maintain up-to-date and fully functional laboratory facilities, which limits students' practical preparedness for the CLE. Licensure components requiring practical competency, such as forensic ballistics and crime scene investigation, consistently record high national failure rates.

St. Anne College Lucena, Inc. in Lucena City exemplifies this concern. Preliminary observations from both students and faculty point to a perceived disconnect between classroom knowledge and practical application. While existing studies on CLE performance often focus on curriculum and faculty, existing studies insufficiently explore the direct role of laboratory facilities in

shaping licensure outcomes in this context.

Responding to this gap, this study systematically examined the relationship between facility availability and student performance in the Criminology Licensure Examination at St. Anne College Lucena, Inc. The research aimed to assess how the availability of essential criminology laboratory resources influenced students' licensure outcomes and to offer targeted recommendations for enhancing educational infrastructure and licensure preparedness.

2. MATERIALS AND METHODS

This study employed a descriptive-correlational research design, which was appropriate for examining the relationship between the availability of laboratory facilities and the Criminology Licensure Examination (CLE) performance of criminology students. As defined by Creswell (2014), a descriptive-correlational design is used when the researcher aims to describe a particular phenomenon and determine the degree of association between two or more variables without manipulating them. In this study, the descriptive component focused on assessing the condition and adequacy of laboratory facilities based on CHED's minimum standards, as well as evaluating students' licensure examination performance. The correlational component examined the statistical relationship between the availability of laboratory resources and students' CLE outcomes. The Pearson Product-Moment Correlation Coefficient (Pearson's r) was the primary tool for the correlational component. This test was used to determine the statistical relationship or degree of association between the availability of laboratory resources (Variable 1) and the students' CLE outcomes (Variable 2). This design allowed the researcher to collect, organize, and analyze both quantitative and qualitative data to identify patterns, relationships, and potential influences.

The study was conducted at St. Anne College Lucena, Inc., located in Lucena City, Quezon Province, Philippines. This institution offered a Bachelor of Science in Criminology program and had consistently produced graduates who were candidates for the Criminology Licensure Examination. The college provided an appropriate setting for the investigation, as recurring concerns had been raised by students and faculty regarding the adequacy and availability of criminology laboratory facilities. These concerns underscored the relevance and urgency of evaluating the institution's physical resources in relation to licensure examination outcomes.

The respondents of the study consisted of 80 participants from St. Anne College Lucena, Inc., comprising 75 criminology student-examinees (25 each from the 2025, 2024, and 2023 Criminology Licensure Examination batches) which is 93.75% of the total cohort and 5 criminology faculty members which is 6.25% of the total cohort.

The student-respondents provided insights based on their experiences with the availability of laboratory facilities and offered suggestions for improvement, particularly in relation to their examination preparedness. The faculty-respondents, on the other hand, contributed expert perspectives on how the availability and adequacy of laboratory resources influenced students' learning, technical skills development, and readiness for the Criminology Licensure Examination.

A purposive sampling technique was employed to select participants who were directly engaged with or affected by the use of criminology laboratory facilities within the institution. This approach ensured that the data gathered reflected the informed experiences of individuals who had first-hand knowledge of the issue being investigated. Research instruments to be used in the study:

Specific Research Question	Instrument	Description
1. How adequate are the laboratory facilities at St. Anne College Lucena, Inc. based on the required competencies for the Criminology Licensure Examination?	Laboratory Facilities Evaluation Survey	A structured checklist and Likert-scale questionnaire based on CHED-mandated laboratory requirements, used to assess the availability of existing criminology laboratory facilities.
2. What is the performance of students in the Criminology Licensure Examination?	Official Licensure Examination Results	Institutional data on students' Criminology Licensure Examination outcomes (2024 or 2025 results), requested from the Registrar's Office.
3. What is the relationship between the availability of laboratory resources and the performance of students in the Criminology Licensure Examination?	Statistical Analysis (Pearson's r)	Data from the Laboratory Facilities Evaluation Survey and the Licensure Examination Results will be statistically analyzed using Pearson's r to determine the relationship between laboratory availability and licensure performance.
4. What are the insights of students and faculty regarding the effects of adequate laboratory facilities on learning, skills development, and exam preparedness?	Interview Guide	A semi-structured interview tool used to gather qualitative insights from students and faculty on the impact of laboratory availability on educational and licensure outcomes.

5. What recommendations can be proposed to improve laboratory facilities and enhance student outcomes in future Criminology Licensure Examinations?	Recommendation Elicitation Section (Part 2 of Laboratory Facilities Evaluation Survey)	

The study employed several instruments tailored to the research objectives. The Laboratory Facilities Evaluation Survey was a structured checklist and Likert-scale questionnaire used to assess facility adequacy. Crucially, the tool was based on CHED-mandated laboratory requirements, ensuring content validity by aligning the evaluation criteria with national standards (e.g., CMO No. 21, s. 2005). The Official Licensure Examination Results provided the performance data. Finally, a semi-structured Interview Guide was used to gather qualitative insights from students and faculty on the impact of laboratory availability on educational and licensure outcomes.

3. RESULTS AND DISCUSSION

1. Adequacy of Criminology Laboratory Facilities

Table 1
Adequacy of Criminology Laboratory Facilities
(Simulation and practice facility availability)

Item No.	DOMAIN 1: Simulation and Practice Facility Availability	WM	VI
1.1	Crime Scene Simulation Laboratory for realistic practice setups	3.36	Available
1.2	Forensic Ballistics Laboratory for ballistic-related exercises	4.00	Fully Available
1.3	Polygraph Laboratory for investigative simulations	4.00	Fully Available
1.4	Forensic Photography Laboratory for crime scene documentation	4.00	Fully Available
1.5	Fingerprint Analysis Laboratory-related exercises	3.48	Available
	Overall Weighted Mean	**3.84**	**Fully Adequate**

Table 1 presents the respondents' evaluation of the adequacy of simulation and practice facilities used in criminology instruction at St. Anne College Lucena, Inc. The results indicate that the overall weighted mean is 3.84, which falls within the descriptor "Fully Adequate." This suggests that, in general, the institution possesses essential simulation-based laboratories that sufficiently support practical training aligned with licensure examination competencies.

Among the specific facilities, the Forensic Ballistics Laboratory (Item 1.2), Polygraph Laboratory (Item 1.3), and Forensic Photography Laboratory (Item 1.4) each received the highest possible rating of 4.00, interpreted as "Fully Available." This reflects strong institutional compliance with CHED's minimum facility requirements outlined in CMO No. 21, s. 2005, which prescribes the presence of specialized laboratories to ensure practical readiness of criminology students. Conversely, the Polygraph Laboratory was highly rated for availability, but a faculty respondent noted, 'The polygraph machine is fully functional, but we only use it intensively for one course. It's often idle for months. We could integrate short Polygraph simulation refreshers into the review program to keep those high-value skills sharp and prevent the equipment from sitting under-utilized. For instance, the CHED list mandates tools such as a polygraph machine for lie detection, bullet comparison microscopes and firearms for forensic ballistics, and camera for Forensic Photography, all of which are essential to these laboratories' full functionality.

On the other hand, the Crime Scene Simulation Laboratory (Item 1.1) and Fingerprint Analysis Laboratory (Item 1.5) were rated 3.36 and 3.48, respectively—both falling under the descriptor "Available." Concerning the Crime Scene Simulation Laboratory, one student lamented, 'The lab is great, but because there are only two full sets of evidence markers and kits for our whole class, we have to share and wait. It takes up a lot of our scheduled time. We need more repetition. Miranda-Rodríguez and Sánchez-Nieto (2024) conclude that intervention programs in universities must be designed to address specific institutional, and learner needs to achieve meaningful improvements in academic outcomes and compliance practices. The authors note that varied contexts and program elements influence effectiveness, so tailored strategies that reflect each university's conditions are essential. For St. Anne College, this means viewing the fully adequate facilities as a "sturdy base" but recognizing that improvements must focus on specific areas of weakness, such as the Crime Scene Simulation Laboratory. While still considered adequate, these values suggest room for enhancement, possibly in terms of spatial layout, scenario diversity, or the quantity and realism of equipment. Alharbi et al. (2024) found that simulation-based learning significantly improves students' clinical knowledge and skill competence,

highlighting that repeated exposure to simulation experiences is associated with better learning outcomes and preparedness for assessment contexts similar to high-stakes examinations.

Furthermore, as observed in CHED's CMO No. 21, the Crime Scene Simulation Laboratory should be equipped with items such as evidence markers, fingerprint development tools, mannequins, and investigative kits. If any of these were incomplete, it could explain the lower rating in this area. Similarly, the Fingerprint Analysis Laboratory should allow for hands-on practice in arrest procedures, self-defense, and tactical communication—requirements that may have been met only partially at the time of evaluation.

Research by Limon (2023) found that the adequacy of school facilities, including practical and laboratory spaces, has a direct positive relationship with students' performance and achievement in technology-based and practical education subjects, reinforcing the link between resource quality and learning outcomes. Therefore, while the current ratings confirm overall adequacy, they also highlight the need for ongoing facility enhancement—especially for crime scene and forensic science simulation environments—to maintain relevance with the evolving standards of criminology licensure and professional practice.

Table 2

Adequacy of Criminology Laboratory Facilities
(Functionality of laboratory equipment)

Item No.	DOMAIN 2: Functionality and Completeness of Laboratory Equipment	WM	VI
2.1	Simulation tools and equipment for crime scene Investigations	4.00	Fully Functional
2.2	Forensic instruments for ballistics	4.00	Fully Functional
2.3	Polygraph instruments and accessories	4.00	Fully Functional
2.4	Questioned document examination and forensic photography tools	4.00	Fully Functional
2.5	Fingerprint Analysis tools	4.00	Fully Functional
	Overall Weighted Mean	**4.00**	**Fully Adequate**

Table 2 reflects the respondents' evaluation of the functionality and completeness of criminology laboratory equipment at St. Anne College Lucena, Inc. The findings reveal a perfect overall weighted mean of 4.00, indicating that the facilities are perceived as "Fully Functional" across all equipment categories. This result underscores a high level of institutional compliance with equipment-related standards set by the Commission on Higher Education (CHED) under CMO No. 21, Series of 2005.

All five items received a rating of 4.00, confirming that equipment for crime scene investigations (Item 2.1), ballistics and fingerprint analysis (Item 2.2), polygraph testing (Item 2.3), document examination and forensic photography (Item 2.4), Fingerprint Analysis tools (Item 2.5) were fully operational and sufficiently available for instructional use. These tools play a critical role in translating theoretical learning into applied competencies—a key expectation of both CHED and the Professional Regulation Commission (PRC) for licensure readiness.

In relation to CHED CMO No. 21, s. 2005, it is expected that the institution maintains equipment such as evidence collection kits, bullet comparison microscopes, polygraph machines, ultraviolet/infrared scanners, high-resolution cameras, and restraining devices. The presence and functionality of such tools are essential to achieving competency-based learning outcomes. The complete list of these CHED-mandated laboratory items is attached in the Appendices of this study.

Research by Libres and Dalman (2025) found that the adequacy and quality of laboratory facilities, including tools and equipment, are significantly related to students' academic engagement and overall achievement in science courses, with better-equipped and maintained labs supporting stronger involvement and learning outcomes. Nilendu (2024) noted that forensic education programs that incorporate current technologies, evidence-based training, and up-to-date laboratory practices significantly improve student competencies and preparedness for professional challenges, including practical components similar to criminalistics and ballistics assessments.

Overall, the perfect rating in this domain reflects that St. Anne College Lucena, Inc. has achieved full compliance with national standards regarding laboratory equipment functionality. It also suggests a strong institutional commitment to maintaining practical readiness, which is essential for students to confidently navigate hands-on components of the Criminology Licensure Examination.

Table 3

Adequacy of Criminology Laboratory Facilities
(Alignment with competency-based learning outcomes)

Item No.	DOMAIN 3: Alignment with Competency-Based Learning Outcomes	WM	VI
3.1	Support for CLE-required skills in criminalistics	3.48	Fully Aligned
3.2	Reinforcement of classroom-based theoretical knowledge	3.84	Fully Aligned
3.3	Development of investigative and forensic competencies	3.84	Fully Aligned
3.4	Preparation for practical board exam components	3.62	Fully Aligned
3.5	Contribution to CHED-mandated learning outcomes	3.84	Fully Aligned
	Overall Weighted Mean	**3.74**	**Fully Adequate**

Table 3 presents the respondents' evaluation of the alignment between the criminology laboratory facilities at St. Anne College Lucena, Inc. and the expected competency-based learning outcomes prescribed by CHED and the Criminology Licensure Examination (CLE). The overall weighted mean is 3.74, which is interpreted as "Fully Adequate." This suggests that the institution's laboratory facilities not only meet instructional requirements but also support the competencies expected of licensure-bound criminology graduates.

All five items under this domain were rated above the 3.50 threshold, indicating that the laboratories are "Fully Aligned" with competency expectations. Specifically, Item 3.1—Support for CLE-required skills in criminalistics—received a rating of 3.48, the lowest among the items, but still nearing full adequacy. This score suggests a slight perception of limitation, possibly tied to the consistency or accessibility of tools used in fingerprinting, trace evidence analysis, or chemical testing—fields that rely heavily on the Dactyloscopy and Forensic Chemistry Laboratories, both of which are detailed in CHED Memorandum Order No. 21, s. 2005. The prescribed equipment in these labs, including fingerprint kits, magnifiers, test reagents, and fuming chambers, are all listed in the Appendices of this study.

The highest ratings of 3.84 were observed in Items 3.2, 3.3, and 3.5—indicating strong support for integrating theory into practice, developing investigative and forensic skills, and meeting CHED learning outcomes. Bracewell and Jones (2022) found that incorporating simulated crime scenes into forensic science and criminology education significantly enhances students' practical skills, critical thinking, and engagement, contributing to greater preparedness for real-world investigative tasks. Furthermore, CHED's CMO No. 21, s. 2005 emphasizes that criminology laboratories must be organized to simulate real investigative tasks, linking directly to the learning outcomes mapped in the curriculum. The presence and use of polygraph machines simulated forensic fingerprint analysis, and fully equipped crime scene reconstructions ensure that graduates are trained beyond theoretical abstraction. The ability of students to translate these experiences into CLE performance is a clear marker of this alignment.

Therefore, the consistently high ratings in this domain reinforce that the laboratory facilities at St. Anne College Lucena, Inc. are not only present and functional but are also pedagogically structured to meet the learning outcomes mandated by CHED and evaluated through the licensure examination.

Table 4

Adequacy of Criminology Laboratory Facilities
(Maintenance, accessibility, and safety standards)

Item No.	DOMAIN 4: Maintenance, Accessibility, and Safety Standards	WM	VI
4.1	Regular maintenance and equipment upkeep	3.92	Fully Adequate
4.2	Accessibility of laboratories during scheduled sessions	4.00	Fully Adequate
4.3	Presence of safety features (e.g., ventilation, first aid)	4.00	Fully Adequate
4.4	Supervision and compliance with safety protocols	3.86	Fully Adequate
4.5	Lab scheduling and time allocation per course requirement	4.00	Fully Adequate
	Overall Weighted Mean	**3.96**	**Fully Adequate**

Table 4 presents the respondents' evaluation of the criminology laboratory facilities at St. Anne College Lucena, Inc. in terms of maintenance practices, accessibility for students, and adherence to safety standards. The results reveal an overall weighted mean of 3.96, which is interpreted as "Fully Adequate." This indicates a strong institutional commitment to ensuring that its laboratories are not only equipped and aligned with competencies but also well-maintained, safe, and accessible to users.

The highest possible rating of 4.00 was achieved in four areas: accessibility of laboratories during scheduled sessions (Item 4.2), presence of safety features such as ventilation and first aid (Item 4.3), and lab scheduling and time allocation per course (Item 4.5). These scores suggest that the institution provides sufficient access to hands-on learning experiences during instructional hours and has incorporated essential safety mechanisms across its laboratories. This reflects compliance with CHED's requirements under CMO No. 21, s. 2005, which prescribes both facility upkeep and safety protocols as part of the minimum operational standards. A detailed list of these standards, including safety devices and facility layout expectations, is provided in the Appendices of this study.

Item 4.4, Supervision and compliance with safety protocols, received a slightly lower yet still strong rating of 3.86, while Regular maintenance and equipment upkeep (Item 4.1) received 3.92. These scores indicate that while protocols and maintenance are generally observed, there may be areas where routine inspection, staff supervision, or equipment servicing can be enhanced to ensure long-term reliability and student safety. Mulleta et al. (2021) found that laboratories that perform regular preventive maintenance and integrate it into their quality management systems are significantly more likely to deliver improved quality services and meet requirements associated with accreditation frameworks.

Moreover, CHED CMO No. 21 emphasizes the importance of structured laboratory management, including ventilation, cleanliness, emergency preparedness, and supervision. The consistently high ratings across all indicators suggest that St. Anne College Lucena, Inc. demonstrates operational discipline and resource allocation to meet these safety and management expectations.

Further analysis of the institutional CLE results reveals a significant performance cluster: first-time takers achieved a 68% passing rate, notably higher than repeaters at 42%. This 26-percentage-point disparity suggests non-facility factors like review strategy and test-anxiety exert a stronger influence on the final outcome than facility adequacy alone. This quantitative finding aligns with the qualitative insight that laboratory use strengthened theoretical understanding, practical skills, and exam confidence, indicating labs are key for knowledge translation but insufficient without strong review habits. The highest-rated labs (Forensic Ballistics, Polygraph, Photography; WM: 4.00) generally correspond with first-time success. Conversely, the lower-rated Crime Scene Simulation (WM: 3.36) and Fingerprint Analysis (WM: 3.48) Laboratories were qualitatively cited as needing more diversified scenarios, suggesting minor deficiencies in these specific areas may impact performance in the practical CLE components

The computed Pearson's r value of +0.26 indicates a weak positive correlation between the adequacy of criminology laboratory facilities and student performance in the Criminology Licensure Examination (CLE). This suggests that while better-equipped laboratories may contribute to improved exam results, their influence is limited when compared with other academic and personal factors affecting licensure outcomes. These are the factors which explain the weak correlation:

1. Examination success depends not only on access to laboratory resources but also on study habits, review participation, cognitive ability, and test-taking strategies. Students with strong theoretical backgrounds and disciplined review practices may perform well even with limited laboratory exposure.
2. Although facilities were found to be fully adequate, not all students used them equally. Differences in attendance, practice frequency, and engagement during laboratory sessions likely affected skill retention and exam readiness, weakening the observable link between adequacy and performance.
3. Data showed that first-time takers achieved higher passing rates (68%) than repeaters (42%). This disparity suggests that prior failure, test anxiety, and inconsistent engagement may have diluted the overall correlation between laboratory adequacy and exam results.

4. CONCLUSION

Based on the findings derived from the data presented and analyzed in the previous chapter, the following conclusions were drawn to address the objectives of the study.

The criminology laboratories at St. Anne College Lucena, Inc. were found to be fully adequate in supporting student training for the CLE, though certain aspects such as simulation diversity and skill-specific integration could be further enhanced. The conclusion was based on the adequacy of Criminology Laboratory Facilities in terms of:

1.1 Simulation and practice facility availability

1.2 Functionality and completeness of laboratory equipment

1.3 Alignment with competency-based learning outcomes

1.4 Maintenance, accessibility, and safety standards

Student performance in the CLE has been inconsistent, with first-time takers generally achieving favorable results and repeaters consistently underperforming—despite access to adequate facilities.

There exists a modest positive relationship between laboratory adequacy and CLE performance, but laboratories alone

are insufficient to predict exam success.

Both faculty and student insights confirm that adequate laboratories contribute not only to exam readiness but also to learning engagement, confidence, and professional formation.

There is a strong institutional opportunity to enhance the existing laboratory infrastructure through targeted improvements that reinforce licensure preparation and long-term academic performance.

The study's recommendations must be anchored in the evidence. To modernize infrastructure, the institution should focus on targeted investment in the two lowest-rated facilities: the Crime Scene Simulation (WM: 3.36) and Fingerprint Analysis (WM: 3.48) Laboratories. This includes acquiring advanced, high-fidelity forensic tools and duplicating essential equipment to resolve quantity bottlenecks and align with evolving licensure requirements, as the realism of simulation exposure is critical for preparedness. Furthermore, the significant disparity between first-time takers (68%) and repeaters (42%) demands specialized support. The institution should implement compulsory, specialized laboratory sessions for repeaters, focusing on low-stakes practical skill drills to rebuild confidence and practical competence, an intervention proven elsewhere to mitigate non-facility-related barriers to success

Study Limitations and Policy Implications

This study was limited by its single-institution scope, which restricts the generalizability of findings to other criminology programs in the Philippines or the broader Asia-Pacific region. The sample size of 80 respondents, while sufficient for correlational analysis, may not fully capture variations in institutional practices and resource management. The study also relied on self-reported assessments of facility adequacy, which could introduce perception bias. In addition, the analysis focused on quantitative relationships and did not measure the long-term impact of laboratory exposure on post-graduation competencies or field performance.

Specifically, the study did not include real-time observational data of laboratory sessions; thus, it could not assess variations in instructor delivery, pedagogical approach, or actual student engagement during practical training. Furthermore, the study did not control for differences in faculty teaching methodologies or individual review participation among respondents, which are known non-facility-related predictors of licensure success. Finally, while institutional CLE results were used, the study did not benchmark performance against national licensure data or against other similar HEIs, limiting the external contextualization of St. Anne College Lucena, Inc.'s outcomes.

ETHICAL CONSIDERATION

Ethical standards were strictly upheld throughout the conduct of this study. Participants were fully informed about the nature, objectives, and voluntary nature of their involvement through a written informed consent form. Confidentiality and anonymity were maintained at all stages, ensuring that personal identities and individual responses remained protected and were not disclosed in any part of the analysis or reporting.

The researcher emphasized to all participants that their involvement was voluntary and that they could withdraw from the study at any time without facing any form of penalty or consequence. Ethical principles outlined in institutional research protocols were followed, including those related to privacy, informed participation, transparency, and non-maleficence. Throughout the processes of data collection, interpretation, and reporting, the researcher observed the highest standards of respect, honesty, and integrity, thereby ensuring that the study remained ethically sound and professionally conducted.

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REFERENCES

[1] Alharbi, A., Nurfianti, A., Mullen, R. F., McClure, J. D., & Miller, W. H. (2024). The Effectiveness of Simulation-Based Learning on Students' Knowledge and Skills in Nursing Programs: A Systematic Review. *BMC Medical Education, 24*, 1099. https://doi.org/10.1186/s12909-024-06080-z

[2] Bracewell, T. E., & Jones, C. (2022). The Use of Simulated Crime Scenes in Teaching Undergraduate Forensic Sciences: Implementing an Active Learning Approach to Forensics. *Science & Justice, 62*(6), 758-767. https://doi.org/10.1016/j.scijus.2022.08.003

[3] Caingcoy, M. (2022). Relationship Between School Facilities and Performance of Education Graduates in the Licensure Examination. *International Journal of Multidisciplinary: Applied Business and Education Research, 3*(10), 1895–1907. https://doi.org/10.11594/ijmaber.03.10.11

[4] Camal, H. J. (2022). Quality Assurance Assessment of the Criminology Program of Basilan State College. *International Journal of Multidisciplinary Research and Publications, 5*(5), 141–145. https://ijmrap.com/wp-content/uploads/2022/11/IJMRAP-V5N5P100Y22.pdf

[5] Commission on Higher Education. (2005). *CHED Memorandum Order No. 21, series of 2005: Criminal Justice Education: Policies and Standards for the Criminology Program*. https://www.scribd.com/doc/251999570/CMO-No-21-s2005

[6] Creswell, J. W. (2014). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications.

[7] Dula, M. D., & Lagumen, H. (2018). Impact of Laboratory Facilities on the Development of Competencies of Criminology Students in Criminalistics: Basis for the Development of Proposed Instructional Framework in Teaching Criminalistics Courses. *Enverga University Research*. https://mseuf.edu.ph/research/read/738

[8] Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Prentice-Hall. https://pubmed.ncbi.nlm.nih.gov/38478822/

[9] Libres, A. C., & Dalman, J. T. (2025). Assessment of the Adequacy and Quality of Laboratory Facilities and its Impact on Students' Academic Achievements. *Liceo Journal of Higher Education Research*. https://asianscientificjournal.com/new/publication/index.php/ljher/article/view/1532/2167

[10] Limon, M. R. (2023). The Effect of The Adequacy of School Facilities on Students' Performance and Achievement in Technology and Livelihood Education. *International Journal of Academic Research in Progressive Education and Development, 5*(1). http://dx.doi.org/10.6007/IJARPED/v5-i1/2060

[11] Miranda-Rodríguez, R. A., & Sánchez-Nieto, J. M. (2024). Effectiveness of Intervention Programs in Reducing Plagiarism by University Students: A Systematic Review. *Frontiers in Education, 9, Article* 1357853. https://doi.org/10.3389/feduc.2024.1357853

[12] Mulleta, D., Jaleta, F., Banti, H., Bekele, B., Abebe, W., Tadesse, L., Eshetu, L., Zewdu, A., Botore, A., & Tadesse, L. (2021). The Impact of Laboratory Quality Management System Implementation on Quality Laboratory Service Delivery in Health Center Laboratories of Oromia Region, Ethiopia. *PLM International Journal of Quality in Health Care*, https://doi.org/10.2147/PLMI.S314656

[13] Nilendu, D. (2024). Enhancing Forensic Education: Exploring the Importance and Implementation of Evidence-Based Education System. *Egyptian Journal of Forensic Sciences, 14*(1), Article 6. https://doi.org/10.1186/s41935-023-00375-w

[14] Patalinghug, M. E., Morrok, A. P., Gilaga, B. G. (2023). Criminal Justice Education Quality Assurance and Program Standard: Implications from a Document Analysis of SUCs Evaluation Reports. *Jurnal Pendidikan Progresif, 13*(2), 493–507. http://dx.doi.org/10.23960/jpp.v13.i2.202326

[15] Professional Regulation Commission (PRC). (2023). *Licensure Examination Performance Report for Criminologists*.