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# CLINICAL LEARNING ENVIRONMENT OF RADIOLOGIC TECHNOLOGY STUDENTS: A CORNERSTONE TO PROFESSIONAL READINESS

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## ABSTRACT

This study investigates how the Clinical Learning Environment (CLE) affects Philippine students studying radiologic technology's professional preparedness. The study uses an explanatory sequential mixed methods research design to investigate how much students believe different CLE components—like clinical activities, screening and evaluation, and orientation—have an impact on their growth. 60 interns from three chosen radiologic technology schools in Bulacan participated in a survey that evaluated their experiences in areas such as equipment maintenance, clinical responsibility, imaging technology optimization, and patient care. Quantitative results indicate that all CLE components were implemented to a high degree, and students' clinical performance and the evaluation of school learning activities were found to be significantly positively correlated. Additionally, the qualitative information obtained from focus group conversations confirms that clinical activities are essential for students' future jobs and emphasizes the significance of patient care as a priority among students. In order to guarantee that students are suitably equipped for the rapidly changing field of radiologic technology, the study emphasizes the need for continuous improvements to the CLE, promoting frequent curriculum updates, faculty development, and the incorporation of cutting-edge technologies. As a result, the CLE is an essential training ground that affects patient care quality in hospital settings as well as educational outcomes.

**Keywords:** Clinical Learning environment, Radiologic Technology, students, Cornerstone to Professional Readiness.

## 1. INTRODUCTION

"Correction does much, but encouragement does more. Encouragement after censure is as the sun after a shower." Johann Wolfgang von Goethe

The Clinical Learning Environment (CLE) is a complex entity crucial in healthcare education. It serves as the setting where theoretical knowledge is applied and practical skills are developed (Almaiah et al., 2022). The CLE is not just a physical space but a complex interplay of relationships, resources, and educational activities that contribute to the professional development of healthcare students (Alghamdi et al., 2022). Moreover, the CLE is increasingly recognized for its role in shaping students' ethical and professional identities, making it an integral part of healthcare education (Khalili et al., 2022). This study uses a mixed-methods approach to show the impact and importance of the CLE in the professional preparation of radiologic technology students.

ISSN: 2582-0745
Vol. 8, No. 03; 2025

Radiologic Technology Education in the Philippine Context in the Philippines, Radiologic Technology is a specialized field regulated by the Commission on Higher Education (CHED). The curriculum is comprehensive, incorporating courses in anatomy, physiology, radiographic techniques, and patient care (Almaiah et al., 2022). Clinical rotations are essential to the curriculum, providing students with hands-on experience in various radiologic procedures (Khalili et al., 2022). These rotations aim to bridge the gap between academic learning and real-world practice, allowing students to apply theoretical knowledge in practical settings (Khalili et al., 2022).

While studies on the professional success of Radiologic Technology are sparse and few and far between, one study conducted by Alipio (2020) found that grades in all year levels of Radiologic Technology courses were the four best predictors of success in the national Radiologic Technology licensure examination in the Philippines. The study analyzed 12 variables and identified seven significant predictors, which could accurately classify 99.9% of all passing graduates and 99.8% of failing graduates. This research highlights the importance of academic performance throughout the Radiologic Technology program in predicting licensure examination success (Alipio, 2020).

CLE as a Holistic Training Ground for Professional Development is particularly crucial in the Philippine context due to unique challenges such as limited resources and a diverse patient population. The CLE exposes students to advanced imaging technologies and allows them to interact with various healthcare professionals, including radiologists and nurses ((Alghamdi et al., 2022). This exposure is essential for developing the technical skills required in radiologic procedures also, serves as a platform for interdisciplinary learning, where Radiologic Technology students can collaborate with other healthcare professionals. This multidisciplinary approach broadens the students' knowledge base and enhances their communication and teamwork skills, which are vital for their future careers (Sait & Tombs, 2021). It bridges academic learning and professional practice, helping students transition smoothly into their career exposes students to the ethical and professional dimensions of healthcare, which are crucial for their future roles as radiologic technologists. Clinical learning environment offers a structured yet flexible learning environment where students can explore, make mistakes, and learn from them, thereby gaining the confidence and competence needed for professional this will serve as a cornerstone in healthcare education, including Radiologic Technology. Its influence is not limited to a single domain but extends across various medical disciplines. In this context, many studies have been conducted to explore the broader aspects of the CLE, each contributing unique perspectives that can be applied to Radiologic Technology practice (Sait & Tombs, 2021). Another study by Sait and Tombs (2021) delved into the role of supervision in clinical learning environments across different undergraduate programs. This research study emphasized that effective management goes beyond mere oversight; it also involves creating a supportive atmosphere that encourages critical thinking and inquiry. This is particularly pertinent to Radiologic Technology, where students must master complex imaging technologies while understanding their medical applications.

Another study applied Glaser's framework of child neglect to the concept of learner neglect in clinical learning environments by (Harrison et al.,) highlighted that inadequate supervision, lack of constructive feedback, and poor mentorship can have long-term detrimental effects on healthcare students' educational and professional development. The study is a cautionary tale,

ISSN: 2582-0745
Vol. 8, No. 03; 2025

emphasizing the need for robust mentorship and supervision in Radiologic Technology education to prevent learner neglect.

Adding to the discourse on supervision and mentorship, another study in 2020 also applied Glaser's framework to explore the concept of learner neglect in clinical learning environments. This study reinforced the importance of adequate supervision and mentorship, suggesting that the absence of these elements can lead to educational neglect that may have lasting impacts on a student's professional development.

## 2. METHODOLOGY

This study employed Creswell's Sequential Explanatory Design wherein the quantitative data was collected first followed by qualitative data collection. In this mixed-methods research design, the results of the qualitative data gathered were used to further explain and interpret the findings of the quantitative phase. A survey was conducted to collect quantitative data from a larger group. Representatives of each group were selected for a focus-group discussion where they explained and offered insights into their survey answers. Six interns consisted of the Focus Group. According to George (2021) focus group is a research method that brings together a small group of people to answer questions in a moderated setting. In this study the group was chosen due to predefined demographic traits, and the questions were designed to shed light on a topic of interest. They were straightforward to organize, and results have strong face validity.

## 3. RESULTS AND DISCUSSIONS

### SOP 1.A. The extent of assessment on the clinical learning environment Internship

**Table 1. The extent of assessment on the clinical learning environment Internship in terms of orientation**

| Orientation Indicators | School A | School B | School C | Total | VI |
|---|---|---|---|---|---|
| 1. Discuss clear and detailed institutional standard on the clinical internship program | 3.375 | 3.739 | 3.63 | 3.58 | FE |
| 2. Ensures systematic identification of needs and expectation and support for statement | 3.625 | 3.173 | 3.57 | 3.464 | FE |
| 3. Provides strategic direction for learning radiologic technology standards | 3.625 | 3.00 | 3.52 | 3.381 | E |

ISSN: 2582-0745
Vol. 8, No. 03; 2025

| | | | | | |
|---|---|---|---|---|---|
| 4. Encouragement of student interns to apply various radiographic techniques acquired from classroom instruction. | 3.375 | 3.391 | 3.40 | 3.388 | E |
| 5. Applies the basic principles in engaging with the people's care | 3.375 | 3.652 | 3.50 | 3.509 | FE |
| 6. Set department support on demonstration of the various techniques. | 3.00 | 3.173 | 3.61 | 3.261 | E |
| Total respondents | 23 | 21 | 16 | | |
| **Over-all Mean** | | | | **60 3.442** | **Extent** |

| Rating | Scale | Verbal Interpretation |
|---|---|---|
| 4 | 3.50 – 4.00 | Great Extent |
| 3 | 2.50 – 3.49 | Extent |
| 2 | 1.50 – 2.49 | Moderately Extent |
| 1 | 1.00 – 1.49 | No Extent |

Table 1 shows the computed mean results of the assessment of the respondents on the clinical learning environment in internship in terms of orientation of the three (3) selected schools in Bulacan. Depicted on the table is the school A that the statements "Ensures systematic identification of needs and expectation and support for statement" Provides strategic direction for learning radiologic technology standards" obtained the highest mean score of 3.625 whereas, statement "Set department support on demonstration of the various techniques" got the lowest mean score of 3.00. However, the over-all mean is 3.395 interpreted as great extent.

It can be gleaned that school B that the highest mean score of 3.739 is statement. "Discuss clear and detailed institutional standard on the clinical internship program "followed by statement "Applies the basic principles in engaging with the people's care" obtained the mean score of 3.652. The lowest among the indicators is statement "Provides strategic direction for learning radiologic technology standards" garnered 3.00. However, the over-all mean is 3.546 interpreted as great extent.

School C as reflected in the table, the highest mean score of 3.63 is statement "Discuss clear and detailed institutional standard on the clinical internship program" followed by statement "Ensures systematic identification of needs and expectation and support for" with a mean score of 3.57. As noticed the lowest statement in orientation aspect is "Provides strategic direction for learning radiologic technology standards". Indicated in the total mean score of school C is 3.480 interpreted as extent.

ISSN: 2582-0745
Vol. 8, No. 03; 2025

All the indicators have shown a great number of mean scores that lead to an over-all mean of 3.473 this manifested that the orientation of the three selected schools provided a great deal of efficient and effective activities that enhance the radiologic technology student in their career path. In summary, school A, B, and C interns' orientations provide a foundation for workplace performance. The orientation sets the tone for the program by communicating the company's mission and values, clarifying expectations, and training interns in necessary lay the groundwork for successful performance at work. Orientation also allows interns the opportunity to connect and begin building professional relationships.

**SOP1. B. The extent of assessment on the clinical learning environment in internship**

**Table 2. The extent of assessment on the clinical learning environment in internship as to Screening and Evaluation**

| Screening and Evaluation | School A | School B | School C | Total | VI |
|---|---|---|---|---|---|
| 1. Taking written exams in clinical learning Performing practical examination | 3.0 | 2.90 | 3.4 | 3.1 | E |
| 2. Evaluation of academic background before the start of practice | 3.142 | 2.61 | 3.0 | 2.91 | E |
| 3. Assessment of learners' professional behavior | 2.904 | 2.81 | 2.91 | 2.874 | E |
| 4. Attendance to student's weekly training lecture | 4.0 | 3.56 | 3.40 | 3.65 | GE |
| **Over-all Mean** | **23** | **21** | **16** | **3.1335** | **E** |

| Rating | Scale | Verbal Interpretation |
|---|---|---|
| 4 | 3.50 – 4.00 | Great Extent |
| 3 | 2.50 – 3.49 | Extent |
| 2 | 1.50 – 2.49 | Moderately Extent |
| 1 | 1.00 – 1.49 | No Extent |

Table 2 yields the data about the number of interns from school A who considered that majority asserted that Indicators 4 "Attendance to student's weekly training lecture" with a weighed mean of 4.0 followed by indicator "Taking written exams in clinical learning performing practical examination" obtained a weighted mean of 2.90. Can be seen that indicator "Evaluation of academic background before the start of practice" got the lowest score of 2.61.

For School B, it presents the mean score of interns at LCUP who described the extent of implementation as regards screening and evaluation. The highest weighted mean score was statement number 4 "Attendance to student's weekly training lecture" with a weighed mean of 3.56 was interpreted as extent. The lowest statement noted in the table was the statement

ISSN: 2582-0745
Vol. 8, No. 03; 2025

"Evaluation of academic background before the start of practice" obtained a weighted mean of 2.61 affirmed that screening and evaluation has been implemented to average extent.

The data also revealed that school C with a highest score of 3.40 as weighted mean considered indicator 4 "Attendance to student's weekly training lecture" and Indicator 1, "Taking written exams in clinical learning Performing practical examination" as implemented to average extent. "Assessment of learners' professional behavior" Got the lowest mean of 2.91. Not one though vowed that all indicators were not practice as denoted by 0.0%
In summary, table 2 shows the percentage of interns at selected schools in Bulacan described the extent of implementation of screening and evaluation as an exigent element of clinical activities as evidence of over-all weighted mean of 3.1335 ( refer to table 2)

**SOP 2. A. Extent of Implementation of Clinical Activities**

**Table 3.Extent of Implementation of Clinical Activities in terms of Patient Care**

| **Patient Care** | **School A** | **School B** | **School C** | **Total** | **VI** |
|---|---|---|---|---|---|
| 1. Proper identification of patient | 3.13 | 3.13 | 3.95 | 3.40 | E |
| 2. Ensure that patient has given informed consent after fiving the patient clear explanation of the procedure to ensure his cooperations. | 3.78 | 3.71 | 3.81 | 3.76 | GE |
| 3. Ensure that any preparatory instruction, pre-medication or contrast media have been correctly administered. | 3.95 | 3.95 | 3.81 | 3.90 | GE |
| 4. Ensure that an appropriate check regarding pregnancy has been performed and appropriate action has been taken. | 3.304 | 3.61 | 3.81 | 3.487 | E |
| 5. Consider radiation protection status of the patient. | 3.304 | 3.95 | 4.0 | 3.751 | GE |
| 6. Perform appropriate after-care | 3.826 | 3.90 | 3.375 | 3.700 | GE |
| 7. Evaluate the patient's condition prior to examination in order to make judgment as to the best method to use. | 3.478 | 3.714 | 3.81 | 3.667 | GE |
| **Over-all Mean** | **23** | **21** | **16** | **3.666** | **GE** |

| Rating | Scale | | Verbal Interpretation |
|---|---|---|---|
| 4 | 3.50 4.00 | – | Great Extent |

ISSN: 2582-0745
Vol. 8, No. 03; 2025

| | | | |
|---|---|---|---|
| 3 | 2.50 – 3.49 | – | Extent |
| 2 | 1.50 – 2.49 | – | Moderately Extent |
| 1 | 1.00 – 1.49 | – | No Extent |

Table 3 extent of implementation of Clinical Activities in terms of Patient care demonstrates the data of the weighted means scored by the interns to the three schools of Bulacan. School A revealed that the intern students put bearing on the statement "Ensure that any preparatory instruction, pre-medication or contrast media have been correctly administered" manifesting a score of 3.95 well-thought-out in the great extent. As seen in the table, the next statement with a score of 3.826 "Perform appropriate after-care" was also in the category of great extent. The interns' point of view that statement 1. "Proper identification of patient" was the lowest among the seven indicators that garnered the weighted mean score of 3.13 and said to be in the extent category.

School B presents the following scores as to patients' care Indicator 3 "Ensure that any preparatory instruction, pre-medication or contrast media have been correctly administered", indicator 5 "Consider radiation protection status of the patient" similarly obtained a larger weighted mean of 3.95 and Indicator 9 "Perform appropriate after-care" showed a little bit lower score of weighted mean as 3.90. The lowest among the indicators of patient care was indicator 1 "Proper identification of patient" (3.13).
School C, manifested a high score of 4.0 placed in the indicator 5 "Consider radiation protection status of the patient" followed by:

Indicator 1 "Proper identification of patient" garnering a mean score of 3.95 and interpreted both as great extent. The next indicators that considered by the radiologic technology student as extensive were statements:"2, 3 and 4 likely obtained the mean scores of 3.81 which understood to be in the great extent.
The Radiologic technology students who claimed that approximately believed that Clinical Learning Environment-Patient Care was greatly implemented. The statistics about the proportion of interns from the three schools who stated that around 3.50-4.00 rating scale thought that CLE was heavily adopted. No one of the respondents thought that patient care has been somewhat implemented. Effective clinical learning environment is one which provides great chances for meaningful experiences that bridge career development of the students.

ISSN: 2582-0745
Vol. 8, No. 03; 2025

**SOP 2. B. Extent of Implementation of Clinical Activities**

**Table 4. Extent of Implementation of Clinical Activities in terms of Uses of Imaging Technology**

| Uses of Imaging Technology | School A | School B | School C | Total | VI |
|---|---|---|---|---|---|
| 1. Make judgment as to the purpose of the request and take the correction action | 2.91 | 2.58 | 3.0 | 2.83 | E |
| 2. Position the patient, source of radiation image recording device and ancillary equipment's such as the final image is optimum | 3.21 | 3.190 | 3.675 | 3.358 | GE |
| 3. Maintain and all steps involving the production and storing of a permanent visible image | 3.52 | 3.71 | 3.625 | 3.618 | GE |
| 4. Use the equipment safely and correctly | 3.86 | 3.52 | 3.93 | 3.77 | GE |
| 5. Ensure that any error in the final images is not due to incorrect usage of equipment | 3.0 | 2.91 | 3.375 | 3.095 | E |
| 6. Select suitable combination of exposure factors and images recording materials to produce optimum images allowing for patient's condition | 3.43 | 3.42 | 3.81 | 3.553 | GE |
| 7. Maintain and all steps involving the production and storing of a permanent visible image | 3.26 | 3.761 | 3.25 | 3.61 | GE |
| 8. Assess the resultant image for suitability for its purpose | 3.26 | 3.76 | 3.875 | 3.58 | GE |
| 9. Applied a detailed knowledge of anatomy in different section planes to be able to correlate the position of the patient with the required three-dimensional information | 3.30 | 3.476 | 3.625 | 3.467 | E |
| 10. Select programs appropriate to digital imaging | 3.21 | 3.53 | 2.61 | 3.11 | E |

ISSN: 2582-0745
Vol. 8, No. 03; 2025

| | | | | | |
|---|---|---|---|---|---|
| 11. Give advice as to the likely quality of the image using the parameters selected, e.g. use of compensating filters, timing of injection, selection of exposure factors | 3.65 | 3.17 | 3.68 | 3.50 | GE |
| 12. Record, adapt, and reconstruct data to obtain optimum image quality | 3.347 | 3.571 | 3.67 | 3.529 | GE |
| 13. Store and retrieve information | 3.78 | 3.714 | 2.904 | 3.464 | E |
| 14. Assess the resultant images for suitability for interpretation and diagnosis | 3.34 | 4.0 | 3.625 | 3.65 | |
| **Over-all Mean** | **23** | **21** | **16** | **3.438** | **E** |

| Rating | Scale | Verbal Interpretation |
|---|---|---|
| 4 | 3.50 – 4.00 | Great Extent |
| 3 | 2.50 – 3.49 | Extent |
| 2 | 1.50 – 2.49 | Moderately Extent |
| 1 | 1.00 – 1.49 | No Extent |

As depicted in Table 4, data shows that the most influential indicator in the extent of implementation of clinical activities in terms of uses of imaging technology in school A is the indicator four (4) “Use the equipment safely and correctly” with a mean score of 3.86. The second highest mean score as rated by the interns goes to indicator thirteen (13) “Store and retrieve information” regarded the mean score of 3.78. The radiologic technology interns believed that the two indicators were greatly extensive, while it could be gleaned from the table, that statement “Ensure that any error in the final images is not due to incorrect usage of equipment” garnered the lowest rate (3.0) among the fourteen (14) indicators.

Whereas School B, the Table indicated that were similar ratings for the indicators seven (7) “Maintain and all steps involving the production and storing of a permanent visible image three (3) “Maintain and all steps involving the production and storing of a permanent visible image “, eight (8) “Assess the resultant image for suitability for its purpose and thirteen”, (13) “Store and retrieve information “obtained a mean score of 3.71 and above. The highest scores that seen in the different indicators, though by the interns to be an agent of career development in the future. However, the lowest score noted in the table was indicator “Make judgment as to the purpose of the request and take the correction action” presented the rating of 2.58.

For School C, School C displays the highest score obtained from the respondents was “Use the equipment safely and correctly” with a weighted mean of 3.77. however, the other indicators presented 3.61 and the least indicators obtained a rating 3.0 to 3.65 could be seen in the table, but

ISSN: 2582-0745
Vol. 8, No. 03; 2025

the smallest score was lower programs appropriate to digital imaging or than programs appropriate to digital imaging 2.61, “Select programs appropriate to digital imaging”.

In summary the three (3) selected schools and its representative interns were greatly practice the indicators stated in the table. Not one thought vowed that all indicators were not practice.

**SOP 2. C. Extent of Implementation of Clinical Activities**

**Table 5. Extent of Implementation of Clinical Activities in terms of : Optimization of Dose**

| Optimization of Dose | School A | School B | School C | Total | VI |
|---|---|---|---|---|---|
| 1. Select and manipulate the exposure factors and image recording materials such that the dose to the patient is minimized while giving the optimum image. | 3.60 | 3.761 | 4.0 | 3.78 | GE |
| 2. Ensure that all equipment to be used is fully fit for its purpose. | 3.65 | 3.53 | 3.75 | 3.64 | GE |
| 3. Use all equipment and methods to ensure minimization of dose to patient, staff, and public and to ensure that no person receives unnecessary irradiation. | 3.11 | 3.69 | 3.25 | 3.35 | E |
| 4. Ensure that any protocols relating to imaging of patients of childbearing capability are applied. | 3.869 | 4.0 | 3.65 | 3.83 | GE |
| 5. Fulfill any requirements for the recording of dose | 3.78 | 3.78 | 3.875 | 3.81 | GE |
| 6. Take appropriate action in radiological emergency situations. | 3.869 | 3.904 | 3.37 | 3.71 | GE |
| **Over-all Mean** | | | | **3.68** | |

| Rating | Scale | | Verbal Interpretation |
|---|---|---|---|
| 4 | 3.50 4.00 | – | Great extent |
| 3 | 2.50 3.49 | – | Extent |
| 2 | 1.50 2.49 | – | Moderately Extent |
| 1 | 1.00 1.49 | – | No Extent |

ISSN: 2582-0745
Vol. 8, No. 03; 2025

Table 5 extent of implementation of Clinical Activities in terms of optimization of Dose demonstrates the data of the weighted means scored by the interns to the three schools of Bulacan. It can be gleaned in Table 5 the indicators presented, the highest scores noted in school A were indicators 4 and 6, “Ensure that any protocols relating to imaging of patients of childbearing capability are applied” and “Take appropriate action in radiological emergency situations” majority of the radiologic technology interns in favor that the indicators four (4and 6) are greatly extensive, meaning it is executed in the clinical area for relating to imaging of patients of childbearing capability and emergency situations. It was followed by indicator 5, “Fulfill any requirements for the recording of dose” with mean score of 3.78 which believed to be in a great extent together with indicators # 1, and 2 with weighted scores of 3.65 and 3.60. As noticed only indicator 3, “Use all equipment and methods to ensure minimization of dose to patient, staff, and public and to ensure that no person receives unnecessary irradiation” has the weighted score lower than 3.11.

While school B, portrayed that the radiologic technology interns are transparent computed the weighted mean of 4.0 in indicator #4 “Ensure that any protocols relating to imaging of patients of childbearing capability are applied.” In conjunction with other indicators, the interns emphasized that most of the items were out loud as great extent. In school C, most of the indicators were rated by interns as great extent which is equally seen in table 5, however, only 2 indicators interpreted as extent the indicators # 3 and 6 “Take appropriate action in radiological emergency situations” and “Use all equipment and methods to ensure minimization of dose to patient, staff, and public and to ensure that no person receives unnecessary irradiation.” With lesser score of 3.49.

Though there were few scores with extent interpretation, but still greater extent was the major assessment of interns in terms of optimization of dose in their clinical activities. According to Ingrassia (2020), clinical practice, learning, and environment are the three main components of clinical learning.

Learning environment as provided by Mary (2018) is as follows: "...social interactions, organizational cultures and structures, physical and virtual spaces that surround and shape participants’ experiences, perceptions, and learning." These variations in definitions draw attention to how complex the concept of CLE is, with various dimensions and elements (such as environment, climate, atmosphere, milieu, and culture).

ISSN: 2582-0745
Vol. 8, No. 03; 2025

**SOP 2. D. Extent of Implementation of Clinical Activities**

**Table 6. Extent of Implementation of Clinical Activities in terms of : Clinical Responsibility**

| Clinical Responsibility | School A | School B | School C | Total | VI |
|---|---|---|---|---|---|
| 1. Undertake the whole range of techniques in diagnostic imaging | 3.130 | 3.238 | 3.75 | 3.69 | GE |
| 2. Assess the quality of one's own work | 3.69 | 3.90 | 3.93 | 3.84 | GE |
| 3. Make judgment to his professional limitations and maintain confidentiality of information. | 3.73 | 3.857 | 3.875 | 3.819 | GE |
| **Over-all Mean** | | | | **3.78** | **GE** |

| Rating | Scale | | Verbal interpretation |
|---|---|---|---|
| 4 | 3.50 4.00 | – | Great Extent |
| 3 | 2.50 3.49 | – | Extent |
| 2 | 1.50 2.49 | – | Moderately Extent |
| 1 | 1.00 1.49 | – | No Extent |

As reflected in Table 6, the extent of implementation of clinical activities in terms of clinical responsibility, revealed that the highest scores indicated in school A, B, and C were equality interpreted as to the greater extent in the #2 and 3 "Make judgment to his professional limitations and maintain confidentiality of information" and "Assess the quality of one's own work" partake a total score of 3.84. The two indicators according to the radiologic technology interns could be assessed as to the great extent because as future professionals' limitations of his/her scope of duties and responsibilities should always be adhered within them and privacy of patients' information is also inherent to the chosen profession. However, some of the interns in school A and B showed only extent to indicator while school C was higher than the two " Undertake the whole range of techniques in diagnostic imaging" this score may denotes that the clinical environment should be strengthen for them to be motivated in undertaking the techniques.

ISSN: 2582-0745
Vol. 8, No. 03; 2025

**SOP 2. E. The extent of Implementation of Clinical Activities**

**Table 7. The extent of Implementation of Clinical Activities in terms of :Care of Equipment**

| Care of Equipment | School A | School B | School C | Total | VI |
|---|---|---|---|---|---|
| 1. Check if the equipment provided is in satisfactory working order | 3.819 | 3.904 | 3.93 | 3.88 | GE |
| 2. Carry out whatever checks and tests are required to monitor the performance of equipment | 3.47 | 3.71 | 3.50 | 3.56 | GE |
| 3. Ensure that all testing equipment required to carry out function test is available to the department and is in good working order. | 3.08 | 3.23 | 3.12 | 3.14 | E |
| 4. Reporting any defects in equipment or its function and ensuring that the necessary repairs are requested from the appropriate person | 2.95 | 3.23 | 3.06 | 3.08 | E |
| 5. Ensure that the equipment and its environment do not present health hazards. | 3.73 | 3.23 | 2.68 | 3.213 | E |
| 6. Dose to patient, staff and public and to ensure that a person receives unnecessary irradiation purpose | 2.86 | 3.73 | 2.68 | 3.09 | E |
| **Over-all Mean** | | | | **3.326** | **E** |

| Rating | Scale | | Verbal Interpretation |
|---|---|---|---|
| 4 | 3.50 4.00 | – | Great extent |
| 3 | 2.50 3.49 | – | Extent |
| 2 | 1.50 2.49 | – | Moderately extent |
| 1 | 1.00 1.49 | – | No extent |

As gathered in Table 7, the extent of implementation of clinical activities in terms of care of equipment. The ratings of interns in three schools who observed the indicators provided diverse scores (3.88) Grounded on the total scores disclosed by the interns (3.26) only indicators 1 and 2 carried as to the great extent “Check if the equipment provided is in satisfactory working order” and “Carry out whatever checks and tests are required to monitor the performance of equipment. As part of medical practitioner in the future, the primary reason in checking if the equipment is satisfactorily functioning is to ensure health safety of the clients. Checking and monitoring of

ISSN: 2582-0745
Vol. 8, No. 03; 2025

equipment will also save time and minimize the waiting time. The other items were carried out as extent. Though, the scores embraced the rating as extensive, the interns still showing a satisfactory performance in caring of equipment in the clinical area. Future radiologic technology professional has the opportunity for career development, as shown in the students 'performance in the clinical area of the selected schools in the past three years?

**SOP 3. Student's Performance of (School A)**

**Table 8. Student Performance of School A**

| Grade Range | | Frequency | | | | | | Verbal Interpretation (VI) |
|---|---|---|---|---|---|---|---|---|
| | | SY 2021 | | SY 2022 | | SY 2023 | | |
| 90-100 | 4.0-5.0 | 2 | 8.69% | 3 | 13.04% | 5 | 21.73% | Excellent |
| 80-89 | 3.0-3.9 | 17 | 73.91% | 13 | 56.52% | 16 | 69.56% | Very Satisfactory |
| 70-79 | 2.0-2.9 | 4 | 17.39% | 7 | 30.43% | 2 | 8.69% | Satisfactory |
| 60-69 | 1.0-1.9 | 0 | | | | | | Needs Improvement |
| 0-59 | 0-9 | 0 | | | | | | Poor |
| **Total number ofresponde nts** | | **23** | | | | | | |

As presented in table 8, the performance of school A during the school year 2021 showed a satisfactory numerical rating of 87.739. After a year, SY 2022, the grades of the radiologic technology students' decrease becomes 78.857. However, the grades of the students at the time of 2023 goes higher, It was noted in the table that during school year, the interns experience a variety of settings and circumstances that are essential to their own well-being through the varied clinical activities. The implementation of clinical activities is paramount in their future career.

**SOP 3. Student's Performance (SchoolB)**

**Table 9 . Student Performance of School B**

| Grade Range | | Frequency | | | | | | Verbal Interpretation (VI) |
|---|---|---|---|---|---|---|---|---|
| | | SY 2021 | | SY 2022 | | SY 2023 | | |
| 90-100 | 4.0-5.0 | 5 | 23.80% | 4 | 13.04% | 5 | 23.80% | Excellent |
| 80-89 | 3.0-3.9 | 14 | 66.66% | 13 | 61.90% | 14 | 66.66% | Very Satisfactory |
| 70-79 | 2.0-2.9 | 2 | 9.52% | 4 | 19.04% | 2 | 9.52% | Satisfactory |
| 60-69 | 1.0-1.9 | 0 | | | | | | Needs Improvement |

ISSN: 2582-0745
Vol. 8, No. 03; 2025

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0-59 | 0-9 | 0 | | | | | | Poor |
| **Total number of respondents** | | **21** | | | | | | |

Depicted in table 9 the ability of the interns to carry out the clinical activities required to monitor good working order in the clinical area. Seemingly the grades of the interns foster critical thinking abilities. The grade range of the interns observed to be very satisfactory with fourteen (14) out of 21 belonged to the said range (80-89 or 66.66percent). It was emphasized by the clinical instructors that interns understand to the said range. the real-world applications of the ideas and concepts they were taught. When some perplexing circumstances arose, the instructors were quick to provide though explanations or the required clarifications. Interns were expected to gain practical experience and were equipped with multitasking skills. For interns to truly stay up to date with the newest equipment in radiologic technology, they anticipated that teachers would make use of technology.

**SOP 3. Student Performance (School C)**

**Table 10. Student Performance of School C**

| **Grade Range** | | **Frequency** | | | | | | **Verbal Interpretation (VI)** |
|---|---|---|---|---|---|---|---|---|
| | | SY 2021 | | SY 2022 | | SY 2023 | | |
| 90-100 | 4.0-5.0 | 5 | 31.25% | 4 | 25% | 5 | 31.25 % | Excellent |
| 80-89 | 3.0-3.9 | 10 | 62.50% | 11 | 68.75% | 11 | 68.75 % | Very Satisfactory |
| 70-79 | 2.0-2.9 | 1 | 6.25% | 1 | 6.25% | 0 | 0% | Satisfactory |
| 60-69 | 1.0-1.9 | 0 | | | | | | Needs Improvement |
| 0-59 | 0-9 | 0 | | | | | | Poor |
| **Total number of respondents** | | **16** | | | | | | |

As reflected in table 10 majority of the radiologic technology interns during the three (3) SY years, obviously belonged to 80-89 grade range. It was analyzed that the interns contribute a very satisfactory performance in the learning clinical environment. The schools have had a great contribution in nurturing the interns for their career development. As what school B displayed it was emphasized by the clinical instructors that interns understand to the said range. the real-world applications of the ideas and concepts they were taught. When some perplexing circumstances arose, the instructors were quick to provide though explanations or the required clarifications.

ISSN: 2582-0745
Vol. 8, No. 03; 2025

Interns were expected to gain practical experience and were equipped with multitasking skills. For interns to truly stay up to date with the newest equipment in radiologic technology, they anticipated that teachers would make use of technology.

**SOP 4. Relationship between the extent of assessment on the activities in the school learning clinical learning environment and activities in the clinical learning environment in area**

**Table 11. Relationship between the extents of assessment on the activities clinical learning environment and components of the clinical Learning environment in area**

| Variables | Pearson's rank R | Correlation | t-value Comp | Tab | Decision | Remarks |
|---|---|---|---|---|---|---|
| 1. School learning clinical learning environment<br>2. Activities in the clinical learning environment | 0.812 | High correlation | 2.47 | 1.645 | Reject | Significant |

Table 11 shows the relationship between the extent of assessment on the activities in the school learning clinical learning environment and activities in the clinical learning environment in area.Based on the results of Pearson's r of 0.81, it can be said that there is a high correlation between the extent of assessment on the activities in the school learning clinical learning environment and activities in the clinical learning environment in area. Furthermore, since the computed t-value of 2.47 is greater than the tabular t-value of 1.645 using the 0.05 level of significance, the hypothesis was rejected and concludes that there is a significant relationship between the extent of assessment on the activities in the school learning clinical learning environment and activities in the clinical learning environment in area. Data shows that the activities in the clinical learning environment in area are affected by the extent of assessment on the activities in the school learning clinical learning environment.

**SOP 5. The Relationship between the activities in the clinical learning environment and the performance of students as paramount in the future career of radiologic technology students for the past three years**

ISSN: 2582-0745
Vol. 8, No. 03; 2025

**Table 12. Relationship between the activities in the clinical learning environment and the performance of students as paramount In the future career of radiologic technology technicians for the past three years**

| Variables | Pearson's rank R | Correlation | t-value Comp | Tab | Decision | Remarks |
|---|---|---|---|---|---|---|
| Performance of students Activities in the clinical learning environment | 0.79 | High correlation | 3.12 | 1.645 | Reject | Significant |

Based from the results of Pearson's r of 0.79, it can be said that there is a high correlation between the activities in the clinical learning environment and the performance of students as paramount in the future career of radiologic technology technicians for the past three years. Furthermore, since the computed t-value of 3.12 is greater than the tabular t-value of 1.645 using 0.05 level of significance, the hypothesis was rejected and concludes that there is a significant relationship between the activities in the clinical learning environment and the performance of students as paramount in the future career of radiologic technology participants for the past three years. The findings revealed that the performance of students is affected by the activities in the clinical learning environment.

## 4. CONCLUSIONS

Based on the findings of the study, the following conclusions are drawn:

1. Given the results for SOP 1, the interns regarded orientation as the most important aspect of the internship activities. Having functioned as the basis for the intern's productivity at work, interns begin to establish professional ties in this area.

As a last point, the internship activities emphasize screening and evaluation. This is yet another crucial aspect that aids in identifying the interns' strengths and shortcomings for administrators and CLE teachers. It is a crucial area that would help radiologic technology schools identify their potential and learn what steps the concerned schools would do to uphold their standards as institutions of radiologic technology. The highlights of the internship activities are the CLE aspects, according to the interns' comments. CLE encompasses the six essential elements, or the many perspectives or paths that illustrate the fundamental duties and obligations of aspiring radiography technicians, which each aspirant technician must become proficient in.

2. To summarize the CLE elements that are considered by the respondents as paramount in the future career of radiologic technology technicians, the interns confirmed that, out of the six components of clinical activities, patient care was their top option; meaning that, when all other factors are considered, they prioritize patient care. This sums up the CLE component that the respondents believe are crucial to the future careers of radiologic technology technicians when all other factors are considered, they prioritize patient care first.

ISSN: 2582-0745
Vol. 8, No. 03; 2025

3. Based on the responses given by the focus group, the members were unanimous that clinical activities should be given priority.
4. Overall, it could be concluded that radiologic technology as any other fields in the medical sphere, is a dynamic profession that must be regularly updated and continuously be enhanced to meet the goals of the course.

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Vol. 8, No. 03; 2025

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