NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES

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In Partial Fulfillment of the Requirements for the Degree of Master of Arts in Nursing Major in Clinical Management

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ABSTRACT

The increasing use of information technology in healthcare highlights the importance of nursing informatics competencies in improving electronic documentation. This study determined the relationship between nursing informatics competencies and FDAR-based electronic documentation performance among nurses in a government hospital in Sultan Kudarat, Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). A single-site, cross-sectional descriptive-correlational design was used. Data were collected from 100 nurses using a survey questionnaire. Nursing informatics competency was assessed in five domains: clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude, and wireless skills. Electronic documentation performance was evaluated by the nurses' respective supervisors. Data were analyzed using frequency and percentage, mean and standard deviation, and Spearman's rho. The findings showed that nurses had a very high overall nursing informatics competency level (M = 3.30). Wireless skills obtained the highest mean (M = 3.78), while basic computer and knowledge skills and clinical informatics attitude had the lowest means (M = 3.07 each). Electronic documentation performance was also high, with an overall mean of 2.63. Spearman's rho analysis revealed a significant positive relationship between basic computer and knowledge skills and electronic documentation performance (rs = 0.250, p = 0.018). However, clinical informatics role (rs = 0.157, p = 0.118), applied computer skills, clinical informatics attitude, wireless skills, and overall nursing informatics competency showed no statistically significant relationships with documentation performance. The study concludes that basic computer and knowledge skills were the only competency domain significantly associated with FDAR-based electronic documentation performance. Strengthening nurses' foundational computer skills through training and continuous support may help improve electronic nursing documentation.

Keywords: *Nursing Informatics Competencies, electronic documentation performance, FDAR-based, Basic computer skills, nurses, Sultan Kudarat, BARMM, Philippines.*

CHAPTER 1
INTRODUCTION
Background of the Study

Nursing informatics integrates nursing science with computer and information sciences to improve healthcare data management, clinical decision-making, and electronic nursing documentation, including Focus, Data, Action, and Response (FDAR)-based nursing notes (Kinnunen et al., 2023). However, electronic documentation systems do not automatically guarantee complete, accurate, and timely nursing records. Challenges in documenting relevant patient data, nursing interventions, and patient responses may affect documentation quality and continuity of care. Effective documentation requires adequate computer knowledge, technical skills, and the ability to apply informatics in clinical practice (Luna et al., 2022; Wang et al., 2023). The implementation of electronic health records in Philippine healthcare settings may be challenged by inadequate internet connectivity, limited technical support, insufficient opportunities for user training, and difficulties with system usability and integration (Elepaño et al., 2025). In 2024, a secondary government hospital in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) adopted an FDAR-based electronic documentation system to support standardized nursing documentation and electronic patient record management. This provided an opportunity to examine nurses' informatics competencies in relation to their documentation practices. Competency and performance are distinct but related concepts; thus, assessing both may help determine whether nurses' knowledge and skills are associated with their actual FDAR documentation practices.

Although previous studies have examined nursing informatics and electronic health record utilization, evidence specifically addressing FDAR-based electronic documentation performance in Philippine public hospitals, particularly in BARMM, remains limited. General electronic health record research may not fully address FDAR's specific documentation requirements. Furthermore, examining individual competency domains may clarify which skills are associated with documentation performance.

Therefore, this study determined the relationship between nursing informatics competencies and FDAR-based electronic documentation performance among nurses in a secondary government hospital in BARMM. It assessed five competency domains: clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude, and wireless skills. The findings may guide targeted informatics training, competency development, documentation audit policies, and quality improvement initiatives to strengthen electronic nursing documentation.

Review of Related Literature

This section presented a discussion of related literature that provided insight into the content of this paper. It explored the nursing informatics competencies and FDAR- Based Electronic documentation performance.

Nursing Informatics Competencies

The massive technology development in society changed the nursing service documentation as nursing informatics is adopted in health care system. The essence of developing informatics competency has been perceived to have a very important usability for electronic documentation (Saha & Rathore, 2024). While,Yngente &Aliswag (2025) concluded that nursing informatics significantly improve patient healthcare outcomes. They pointed that informatics skills enhance the ability of the nurses to harmonized the use of computer in recording details and status of patient. This had made collaborations with other health care team efficiently making patient care more comprehensive.

The assessment of nursing informatics competency is an important step in identifying nurses' strengths and learning needs before developing programs to improve electronic health record management (Jang & Kim, 2022; Kinnunen et al., 2023). This can lead to competent nurses in using technology devices to records management. Wireless communication technologies are increasingly being integrated into healthcare, making nursing informatics competencies essential for nurses to adapt to evolving electronic health record systems and digital documentation practices (Ramoo et al., 2023).

Clinical Informatics Role. The role of informatics today in electronic management is making nurses more accurate and efficient in records and documentation. The competency of nurses in using computers how integrate it in their day today nurses' notes can mean advancement in documentation (Carroll, 2023). The easy access and availability of records using informatics makes management of patient very convenient for the health team (Reid, et al., 2022).

The integration of nursing informatics into nursing practice has transformed traditional paper-based records management into electronic health records (EHRs). This advancement enables nurses to document, retrieve, and share patient information more efficiently, supporting referrals, continuity of care, and the monitoring of patients' conditions. Electronic nursing documentation systems also promote standardized recording of clinical information, improving the accessibility and organization of nursing records (Kodama et al., 2023). This helped in records keeping and preservation. Likewise, the communication between different health teams is easier and more convenient using informatics (Hamilton, et al., 2022).

Basic Computer and Knowledge Skills. The ability to use computers is essential in nursing records management, particularly in electronic health records (EHRs), which enable nurses to document, retrieve, and manage patient information efficiently. Nurses therefore need adequate computer literacy and informatics skills to use electronic health systems effectively in clinical practice (Weinschreider et al., 2022). Basic computer literacy is an essential component of nursing informatics competency, enabling nurses to use digital technologies and health information systems in clinical practice. Adequate informatics skills are essential for accurate nursing documentation and the effective use of health information systems (Kinnunen et al., 2023). This basic literacy skills in computer can be a good foundation of effective digital records management.

The knowledge and skills on using the computer as well as its function can make the integration of technology in records management (Longhini, et al., 2022). Nurse managers must conduct regular training and updating sessions and courses about basic and advanced computer skills that can help improve the ability of nurses to do use it, such as in electronic documentation, data entry, and use of health information system (Bimerew & Chipps, 2022).

Applied Computer Skills in Clinical Informatics. The evolution of technology is grounded on computer skills. Clinical informatics development in nursing care provides a new dimension of documentation of patients' care. The support to provide development program for nurses to be highly technological in performing their documentation task in the nursing practice environments is good foundation of reform in nursing service (Cachata, et al., 2025). The recommendation of World Health Organization (2022) is that computer skills when developed can be used in nursing informatics in performing health assessment to patient. This can help in storing the data needed.

Clinical Informatics Attitude. The International Council of Nurses (2023) explained that nurses' attitude towards the use of informatics can either be enthusiasm and supportive or hesitant or anxious can affect the outcome of implementation of nursing informatics. The positive attitude of nurses can help in developing resilience to use of clinical informatics in a sustainable way (Vogel, et al., 2024).

Nursing informatics competencies enable nurses to use digital technologies and electronic health records to support accurate and efficient clinical documentation. When nurses encounter difficulties in using electronic documentation systems, appropriate training and organizational support are essential to strengthen their competencies and promote effective system utilization (Kinnunen et al., 2022). The difficulty of adjusting to the new system requirements, which may divert their attention from other vital patient care duties. This learning process disrupts established workflows, affecting efficiency and potentially causing delays in essential care.

Wireless Devices. The use of wireless devices in communication in health service delivery is beneficial to the nurses, health team and even to the patients (Dallora et al., 2024). Wireless communication devices provide nurses with convenient and timely means of communicating with other healthcare professionals about patients' conditions and progress. The use of personal digital devices, such as smartphones, supports information sharing, facilitates communication among healthcare team members, and assists nurses in accessing patient care information in clinical settings (Donelle et al., 2023). This had been part of technology infusion in health care service delivery. Wireless devices provide medium for easy communication among health teams.

One of the edges of wireless device use is the recording of real time data. The recording of patients' vital signs taken can easily be stored and transmitted using wireless devices (Kleib, et al (2022). The use of wireless devices enables nurses to save time to log in and out in computers, instead can just send data in innovative means by either through QR code use (Kim & Lee, S. 2023).

FDAR- Based Electronic Documentation Performance

FDAR-based electronic documentation performance refers to how accurately, completely, and promptly nurses record Focus, Data, Action, and Response notes in electronic health record systems. This structured format improves the organization of nursing notes, enhances communication among healthcare providers, and supports continuity of care and patient safety. American Nurses Association states that electronic documentation also serves as a reliable legal record and supports clinical decision-making.

Electronic FDAR documentation offers several benefits, including improved legibility, faster retrieval of patient information, and better compliance with documentation standards. Wahyuni et al. (2024) emphasized that electronic nursing documentation can improve patient safety, the quality of nursing care, and documentation practices. Similarly, Kinnunen et al. (2023) highlighted the importance of nurses' informatics competencies in using health information systems, including nursing documentation.

The Electronic Records Management is defined Al-Khasi & Mudholkar (2023) as an administrative process performed by personnel trained on use of technology for Internet and business networks in planning, directing and controlling individuals electronically without limits in order to achieve the objectives of the organization. The use of electronic records management is becoming indispensable today in health organizations much more in nursing service documentation. This had made charting and recording easier and efficient (Khleib, et al., 2024).

The American Nurses Association (ANA, 2025) defines nursing informatics as the integration of nursing science, computer science, and information science to manage and communicate data, information, knowledge, and wisdom in nursing practice. This data approach to patient care enhances the clinical experience for health care providers and patients. WHO (2024) explained that the vital engagement of nurses in using informatics ranges from records management to communication exchange in health care setting and the organization, but it's rooted in system design and implementation, education, research, and quality improvements.

Synthesis

In summary, the reviewed literature indicates that FDAR-based electronic documentation performance is an essential component of nursing practice that reflects the accuracy, completeness, and timeliness of nursing records. The studies pointed contradicting results on competencies of nurses in using electronic health record systems wherein some are already competent due to trainings attended while, others have challenges due to lack of resources and technical support. Studies by Ulla-Mari Kinnunen, Anu-Marja Kaihlanen, and Tuulikki Vehko (2023) further suggest that effective electronic documentation depends on nurses' competencies in using digital systems. These findings support the present study by highlighting that stronger nursing informatics competency may be associated with better FDAR-based electronic documentation performance among nurses.

Theoretical Framework

The present study is anchored on the Technology Acceptance Model (TAM) developed by Davis (1989) and supported by the Technology Informatics Guiding Education Reform (TIGER) Nursing Informatics Competencies Framework. These frameworks provide a basis for understanding the relationship between nurses' informatics competencies and their performance in FDAR-based electronic documentation.

The Technology Acceptance Model (TAM) identifies perceived usefulness and perceived ease of use as two major factors influencing individuals' acceptance and adoption of technology. Recent research has continued to support the relevance of these factors in understanding nurses' intentions to adopt and use healthcare technologies (Wang et al., 2025). Perceived usefulness refers to the extent to which users believe that a technology improves their work performance, while perceived ease of use refers to the extent to which users believe that the technology can be used with minimal effort. In the context of this study, these concepts help explain how nurses' perceptions of electronic documentation systems may influence their engagement with technology in clinical practice. Nurses who recognize the usefulness of the FDAR-based electronic documentation system and find it manageable to use may be more willing to incorporate it into their daily documentation activities.

The study is further supported by the TIGER Nursing Informatics Competencies Framework, which identifies basic computer competencies, information literacy, and information management as essential areas of informatics competency for nurses. These areas are relevant to the nurses' ability to navigate electronic health records, manage clinical information, and document patient care accurately and efficiently. The framework supports the assessment of nurses' basic computer and knowledge skills, applied computer skills, clinical informatics role, clinical informatics attitude, and wireless skills as indicators of nursing informatics competency.

In this study, nursing informatics competencies served as the independent variable, while FDAR-based electronic documentation performance serves as the dependent variable. The framework assumes that nurses' knowledge, skills, and attitudes toward informatics may be associated with their ability to document patient care effectively through the electronic system. The Technology Acceptance Model provides a perspective on technology acceptance, while the TIGER framework emphasizes the competencies necessary for using information technology in nursing practice. Together, these frameworks guide the investigation of whether nursing informatics competencies are significantly related to and may predict FDAR-based electronic documentation performance among nurses in a government hospital in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM).

Conceptual Framework

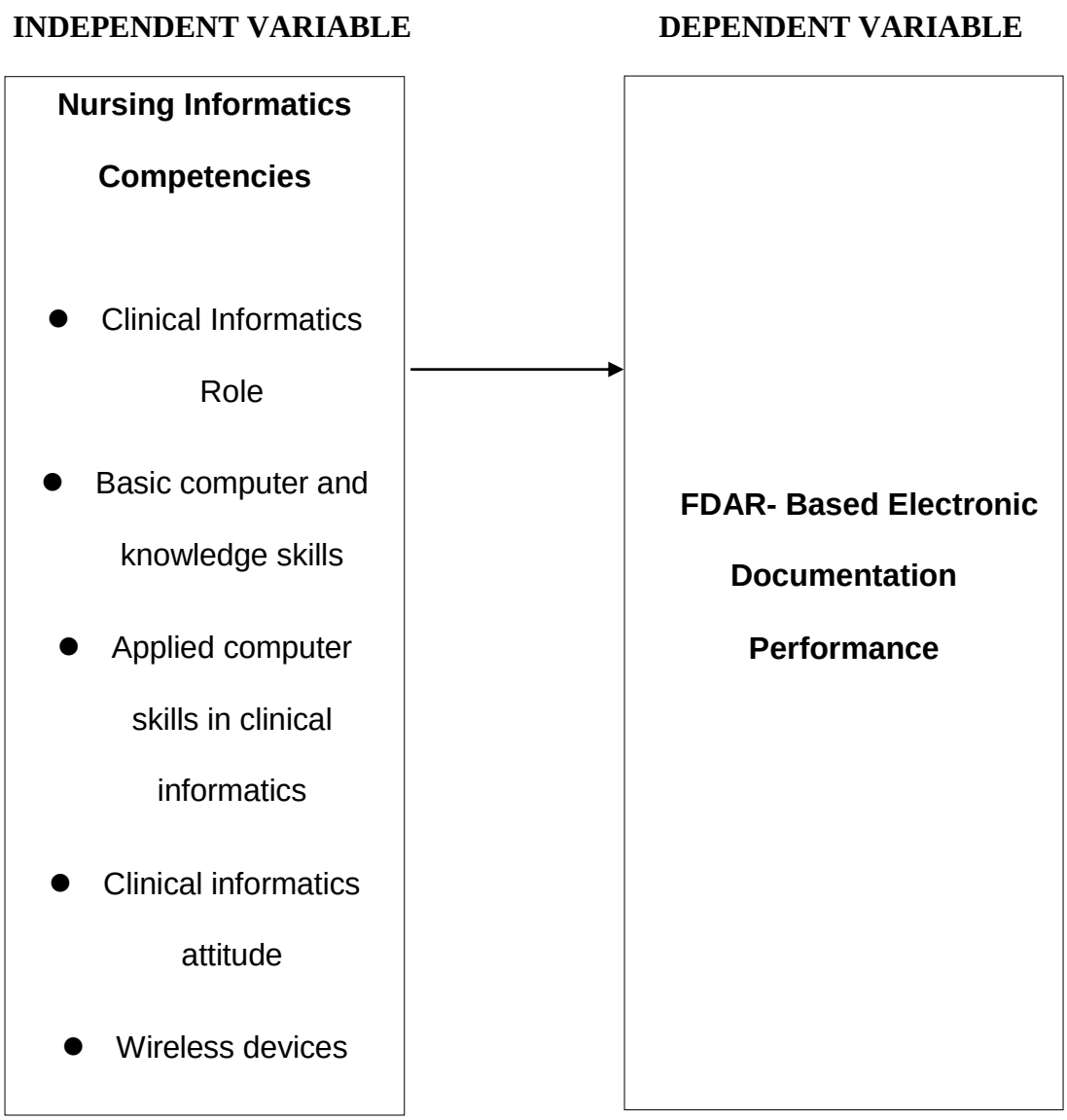

Figure 1. Research Paradigm

The diagram in Figure 1 presented the conceptual framework of the study with nursing informatics competencies of nurses; described in terms of clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude and wireless devices, as the independent variables. Meanwhile, the FDAR-Based electronic documentation performances of nurses; as the dependent variable of the Study.

Statement of the Problem

The study aimed to determine the relationship of nursing informatics competencies to the electronic documentation performance of nurses in public hospital in the Bangsamoro Autonomous Region in Muslim Mindanao.

Specifically, the study sought answers to the following research questions:

1. What is the demographic profile of the respondents in terms of:

1.1 Age;

1.2 Sex;

1.3 Educational attainment;

1.4 Area of assignment; and

1.5 Length of service?
2. What is the level of the nursing informatics competencies of respondents in terms of:
2.1 Clinical informatics role;
2.2 Basic computer and knowledge skills;
2.3 Applied computer skills in clinical informatics;
2.5 Clinical informatics attitude; and
2.5 Wireless devices?

3. What is the level of electronic documentation performance of respondents?
4. Is there a significant relationship between the extent of nursing informatics competencies and electronic documentation performance of the respondents?

Hypothesis

To guide the investigation, the study was tested using the following hypotheses to determine the relationship between the variables under the study.

Ho_1: There is no significant relationship between the extent of nursing informatics competencies and electronic documentation performance of the respondents.

Definition of Terms

The following key terms for this research proposal are defined operationally for better understanding.

Applied Computer Skills in Clinical Informatics. Refers to the ability of nurses to apply computer skills in performing clinical informatics-related tasks, such as accessing, entering, retrieving, and managing patient information through electronic systems.

Basic Computer and Knowledge Skills. Refer to the nurses' fundamental knowledge and abilities in using computers and electronic systems for routine clinical and documentation-related activities.

Clinical Informatics Attitude. Refers to the nurses' perceptions, willingness, confidence, and attitude toward the use of informatics and electronic technologies in clinical practice.

Clinical Informatics Role. Refers to the nurses' understanding and application of the role of informatics in supporting nursing practice, clinical decision-making, patient care, and management of health information.

Communication Technology. This refers to the use of electronic systems to share and exchange patient information among healthcare professionals.

Documentation Performance. Refers to the level at which nurses appropriately and consistently perform electronic FDAR documentation based on the required documentation practices of the healthcare facility.

Electronic Documentation. Refers to the procedures and activities performed by nurses in recording, organizing, updating, and managing patient care information through an electronic documentation system, particularly the use of the Focus, Data, Action, and Response (FDAR) format to ensure accurate, complete, and timely nursing documentation.

FDAR. This stands for Focus, Data, Action, and Response, a structured format used by nurses to systematically document patient problems, supporting observations, nursing interventions, and patient outcomes.

Information Literacy. This refers to the ability to search for, evaluate, and apply relevant electronic information to support nursing practice and evidence-based care.

Nursing Informatics. This refers to a branch of science wherein it included integration of technology to improve patient care and documentation.

Nursing Informatics Competencies. This refers to the ability to understand and perform clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude and wireless devices of the nurses.

Wireless Skills. Refer to the nurses' ability to use wireless technologies and mobile devices to access, communicate, retrieve, and manage health information in clinical settings.

Significance of the Study

The findings of this study are expected to benefit the following individuals and groups by providing specific insights and recommendations for improving nursing informatics competencies and FDAR-based electronic documentation performance.

Nurses. The findings may help nurses identify their strengths and areas for improvement in using nursing informatics for electronic documentation. The results may guide them in participating in targeted training programs, skills enhancement activities, and continuing professional development focused on basic computer skills, clinical informatics applications, and accurate, complete, and timely FDAR documentation.

Nursing Administrators. The findings may serve as a basis for designing and implementing competency-based training programs tailored to the identified learning needs of nurses. They may also guide the development of documentation audit policies, standardized FDAR documentation checklists, and regular performance evaluation procedures to monitor the accuracy, completeness, consistency, and timeliness of electronic nursing records. These measures may help identify recurring documentation errors and determine appropriate corrective interventions.

Hospital Administrators. The findings may provide evidence to support decisions regarding resource allocation, information technology support, and the implementation of institutional policies that strengthen electronic documentation practices. Specifically, the results may guide the provision of computer equipment, reliable network access, technical assistance, and structured informatics training. Hospital administrators may also use the findings to support the establishment of regular electronic documentation audits and quality improvement initiatives to promote standardized nursing records and strengthen accountability in patient care documentation

Future Researchers. The findings may serve as a reference for future studies on nursing informatics competencies and electronic documentation performance in other healthcare institutions. Researchers may use the results to explore additional factors that influence documentation performance, evaluate the effectiveness of competency-based training programs, and assess the impact of documentation audit policies on the quality of electronic nursing records. Further studies may also validate the findings using larger samples, different research designs, and other healthcare settings.

CHAPTER 2

METHODS

This chapter included the research methods that were followed in this study. It consisted of design, setting, participants, measures, ethical considerations, procedures, statistical tools, and the scope and limitations of the study.

Design

This study employed a descriptive-correlational research design, which is a quantitative, non-experimental approach used to examine the relationship between variables without manipulating them. In this design, data were collected through surveys and analyzed using statistical techniques, such as correlation analysis, to determine the strength and direction of the association between the independent and dependent variables. Similarly, Miksza et al. (2023) explained that descriptive-correlational research examines existing conditions and relationships using survey or observational methods without manipulating the variables under investigation.

This design was appropriate for the present study because it aimed to determine whether nursing informatics competency, the predictor variable, is significantly related to and can predict electronic documentation performance, the outcome variable, among nurses. By measuring both variables using standardized questionnaires, the study identified whether higher levels of nursing informatics competency are associated with better electronic documentation performance. The findings provided empirical evidence regarding the predictive value of informatics competency and may serve as basis for developing educational interventions and institutional strategies to strengthen nurses' technological skills and improve the quality of nursing documentation.

Settings

The study was conducted in a Level II government hospital with a 250-bed capacity located in Sultan Kudarat, Maguindanao del Norte, within the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). The hospital was selected as the research setting because it is one of the region's healthcare institutions that utilizes computerized systems, including FDAR-based electronic documentation. The hospital has been implementing the FDAR-based electronic documentation system since 2024 and continues to use it to the present. As nurses play a vital role in the effective utilization of these systems, the hospital provides an appropriate setting for examining the relationship between nursing informatics competencies and FDAR-based electronic documentation performance. The findings of the study may contribute to improving nursing documentation practices and strengthening the utilization of nursing informatics in government hospitals within the BARMM region.



Figure 2. Site Map

(Source: Google Map 2025)

Participants

The participants of the study consisted of staff nurses employed in a secondary government hospital who were directly involved in patient care and routinely used the Focus, Data, Action, and Response (FDAR) format in the hospital's electronic documentation system, as well as their respective supervisors. The staff nurses served as respondents for the independent variable, nursing informatics competencies, while their respective supervisors served as respondents for the dependent variable, FDAR-based electronic documentation performance, by evaluating the documentation performance of the staff nurses under their supervision. Of the 232 nurses in the institution, 214 staff nurses met the eligibility criteria. Staff nurses were required to have worked in the institution for at least six (6) months to ensure adequate exposure to the electronic FDAR documentation process and sufficient clinical experience to provide reliable responses. Nurses assigned to the Outpatient Department (OPD) and those who did not meet the inclusion criteria were excluded from the study.

The sample size was set at 100 nurses from the 214 eligible participants. The required sample size was determined using G*Power analysis to ensure adequate statistical power for examining the relationship between nursing informatics competencies and FDAR-based electronic documentation performance. The computation was based on the appropriate statistical test, anticipated effect size, significance level (α):0.05, desired statistical power (1 – β): 0.08, and number of predictors. Five nursing informatics competency domains were considered as predictors: clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude, and wireless skills. Simple random sampling was employed to select the 100 nurse-respondents who participated in Parts I and II of the questionnaires. Each eligible nurse was given an equal chance of selection, and participation was voluntary upon providing informed consent.

The researcher personally approached the randomly selected nurses and their respective supervisors to explain the purpose of the study, request their participation, and administer the questionnaires face-to-face. The 100 selected nurses answered Parts 1 and 2, which gathered their demographic information and assessed their nursing informatics competencies. Their respective supervisors completed Part 3 to evaluate the nurses' FDAR-based electronic documentation performance. The researcher explained the

instructions and clarified questions whenever necessary to ensure that the respondents understood the items. After completion, the researcher collected the questionnaires, checked them for completeness, and matched the supervisors' evaluations with the corresponding nurses' responses. All 100 selected nurses and their respective supervisors participated, resulting in a 100% response rate for both groups.

Measures

The study used an adapted questionnaire based on the Self-Assessment of Nursing Informatics Competencies Scale (SANICS) developed by Yoon, Yen, and Bakken (2009), and selected items from Kuusisto et al. (2023) to assess nursing informatics competencies and FDAR-based electronic documentation performance. The instrument was contextualized to the hospital's electronic documentation system and underwent expert validation and pilot testing involving 30 nurses.

Cronbach's alpha results indicated acceptable to excellent internal consistency. Basic computer and knowledge skills obtained the highest coefficient ((\alpha = 0.9319)), followed by wireless skills (0.7932), clinical informatics role (0.7559), clinical informatics attitude (0.7150), and applied computer skills in clinical informatics (0.7074). Electronic documentation performance obtained a coefficient of 0.7230. All coefficients exceeded 0.70, supporting the reliability of the instrument.

Part I. Demographic Profile of the Respondents

Part I of the research questionnaire gathers demographic and professional information about the nurse-respondents. It includes the following variables:

1. Age – 18–25, 26–35, 36–45, 46–55, and 56 years old and above.

2. Sex – Male or female.

3. Highest Educational Attainment – College graduate, master's degree, or doctorate degree.

4. Area of Assignment – Emergency Room (ER), Operating Room/Delivery Room (OR/DR), ward, or special area.

5. Length of Service – 0–11 months, 1–2 years, 3–4 years, or 5 years and above.

The respondents provided the information requested by checking (✓) the appropriate box. Each respondent selected only one response for each item that best describes their demographic and professional profile. All information gathered were treated confidentially and used solely for the purposes of this study.

Part 2. Nursing Informatics Competencies

This part 2 questionnaire was adapted from the Self-Assessment of Nursing Informatics Competencies Scale (SANICS) developed by Yoon, Yen, and Bakken (2009), with selected items informed by the nursing informatics competency assessment literature of Kinnunen et al. (2023). It assessed five domains: clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude, and wireless skills. The respondents rated their competencies using a four-point scale scoring and interpretation:

Scale	Verbal Description	Meaning
4	**Excellent**	Able to perform the competency independently, confidently, and effectively.
3	**Good**	Able to perform the competency independently with minimal difficulty.
2	**Fair**	Able to perform the competency but may require some assistance or experience some difficulty.
1	**Weak**	Limited ability to perform the competency and require substantial assistance.

A higher score indicates a higher level of nursing informatics competency, while a lower score indicates a greater need for assistance, experience, or further competency development.

Part 3. FDAR-Based Electronic Documentation Performance

Part 3 assessed the nurses' performance in using the Focus, Data, Action, and Response (FDAR) format within the hospital's electronic documentation system. The items focused on the accuracy, completeness, timeliness, organization, and appropriateness of nursing documentation. Selected items were informed by the nursing informatics competency and health information system usage literature of Kinnunen et al. (2023), particularly in relation to electronic documentation. The items were contextualized to the hospital's FDAR-based electronic documentation practices. The respondents' respective supervisors evaluated the nurses' performance using a three-point scale. The adapted instrument underwent reliability testing, yielding a Cronbach's alpha of 0.723, indicating acceptable internal consistency.

A three-point performance scale is used, with the following scoring and interpretation:

Score	Response	Meaning
3	**Always**	Performs the documentation practice consistently
2	**Sometimes**	Performs the documentation practice inconsistently/occasionally
1	**Never**	Does not perform the documentation practice

A higher score indicates more consistent performance of FDAR-based electronic documentation practices, while a lower score indicates less frequent performance.

For both parts, the item scores were summed or averaged, as appropriate, to obtain the respondents' overall scores for each variable and its corresponding dimensions. The resulting scores were interpreted according to the response scale applicable to each part of the instrument.

Ethical Consideration

Ensuring the rigor and integrity of this quantitative study is essential to accurately determine the relationship between nursing informatics competencies and FDAR-based electronic documentation

performance among nurses. Quantitative research emphasizes objectivity, the measurement of variables, and statistical analysis to examine relationships between variables. It uses numerical data and systematic analytical methods to minimize researcher bias and support the generalizability of findings when the research design and sampling procedures are appropriate (Lim, 2025). To strengthen the methodological rigor of the study, the principles of credibility, transferability, dependability, and confirmability are considered essential criteria for evaluating the trustworthiness of research findings. Recent literature emphasizes that these principles can be supported through appropriate documentation, detailed descriptions, triangulation, and reflexive practices to enhance the credibility and transparency of research (McGill et al., 2023; The Pillars of Trustworthiness in Qualitative Research, 2024).

Social Value. This study focused on examining the relationship between nursing informatics competencies and FDAR-based electronic documentation performance among nurses. The results are expected to benefit hospital administrators, nursing leaders, and policymakers by providing evidence that can guide the development of training programs, improve electronic documentation systems, and strengthen nurses' informatics competencies. Ultimately, the findings may contribute to improved accuracy, efficiency, and quality of FDAR documentation, leading to enhanced patient safety and better healthcare delivery in institutions using electronic health records.

Risk and Benefits. The study presented minimal risk to participants, as it only involves the completion of questionnaires related to nursing informatics competencies and FDAR-based electronic documentation performance. The benefits of the study included identifying gaps in nursing informatics skills and FDAR documentation practices, which served as a basis for targeted training and institutional improvements. The findings also supported evidence-based strategies to enhance documentation quality and nursing efficiency.

Voluntary Participation. Participation in this study is entirely voluntary, and informed consent is obtained from all respondents prior to data collection. Nurses are informed that they have the right to refuse participation or withdraw at any time without penalty or any effect on their employment status or professional standing. This ensures that participation is based on free will and informed decision-making, consistent with ethical standards in research.

Privacy and Confidentiality. In compliance with the Data Privacy Act of 2012, all personal and sensitive information gathered in this study is protected and handled with strict confidentiality (Republic Act No. 10173, 2012). Data related to nursing informatics competencies and FDAR-based electronic documentation performance are anonymized to ensure that no participant can be identified. Access to the data was limited only to the researcher and authorized personnel involved in the study. All electronic files were stored in password-protected and encrypted devices, while any physical documents are kept in secure storage. Data will be retained for 3–5 years after completion of the study and will be disposed of securely through permanent digital deletion and shredding of printed materials.

Procedures

This section outlined the steps taken in the study, from securing approvals to data collection and analysis, ensuring ethical compliance throughout the research process.

1. The researcher first secured approval from the research adviser, research panel, and the Program Chairperson of the Master of Arts in Nursing of Davao Doctors College, Inc. to conduct the study.
2. After approval, the research instrument underwent a face and content validation by three experts to ensure its appropriateness and relevance.
3. Once validated, the questionnaire was pilot-tested to determine its reliability using Cronbach's alpha.
4. After obtaining acceptable reliability results, the researcher secured formal approval from the selected hospital and obtain informed consent from the nurse participants, followed by the distribution of questionnaires either face-to-face.

5. All collected data were organized, analyzed, and interpreted in line with the study design, and conclusions and recommendations were formulated based on the findings.

Data Analysis

The following statistical treatments listed below were used in the study to analyze the collected data:

Frequency and Percentage. These were used to describe the demographic profile of the respondents.

Mean and Standard Deviation. These were used to describe the level of nursing informatics competency and FDAR- based electronic documentation performance among nurses.

Nonparametric Correlation (Spearman-Rho). This tool was used to test the significant relationship between the variables.

Scope and Limitation of the Study

This study focused on determining the relationship between nursing informatics competencies and FDAR-based electronic documentation performance among staff nurses in a selected secondary government hospital in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Data gathering was conducted from August 26 to October 4, 2026. The study included nurses who had been employed for at least six (6) months and were actively engaged in bedside care and FDAR-based electronic documentation. A total of 100 respondents were selected using simple random sampling. Nursing informatics competencies were assessed using an adapted questionnaire, while FDAR-based electronic documentation performance was evaluated by the respondents' respective supervisors using an adapted assessment questionnaire. Thus, the dependent variable reflected supervisor-assessed documentation performance rather than the nurses' self-perceived performance. The study did not include other factors that might influence documentation performance, such as workload, staffing ratios, and organizational policies. Nurses assigned to the Outpatient Department (OPD) were excluded because of differences in their documentation responsibilities. The findings were limited to the selected hospital and may not be generalizable to other healthcare institutions.

CHAPTER 3
RESULTS AND DISCUSSION

This chapter presented the research design, setting, respondents, instruments, data collection, statistical analysis, and ethical considerations used in the study.

1. What is the demographic profile of the respondents in terms of: Age; Sex; Educational attainment; Area of assignment; and Length of service?

Table 1. The demographic profile of the respondents

Profile	Frequency	Percentage
Sex		
Male	26	26.00
Female	74	74.00
Age		

18-25 years old	30	30.00
26-35 years old	45	45.00
36-45 years old	25	25.00
46-55 years old	00	00.00
55 years old and Above	00	00.00
Years of Service		
Less than 1 year	10	10.00
1-2 years	25	25.00
3-4 years	45	45.00
5 years and above	20	20.00
Educational Attainment		
Bachelor's Degree	100	100.00
Master's Degree	00	00.00
Doctorate Degree	00	00.00
Area of Assignment		
ER	17	17.00
ORDR	22	22.00
Ward	41	41.00
ICU	8	08.00
Dialysis	12	12.00

Note: n= 100

Table 1 presents the demographic profile of the 100 respondents in terms of sex, age, years of service, educational attainment, and area of assignment. The distribution provides an overview of the characteristics of the respondents who participated in the study.

In terms of sex, the majority of the respondents were female, with 74 respondents (74.00%), while 26 respondents (26.00%) were male. This indicates that the respondents were predominantly female, suggesting that women comprised a substantially larger proportion of the study participants.

With regard to age, the largest group consisted of respondents aged 26–35 years old, with 45 respondents (45.00%). This was followed by those aged 18–25 years old, with 30 respondents (30.00%), and those aged 36–45 years old, with 25 respondents (25.00%). No respondents were recorded in the 46–55 years old and 55 years old and above categories. The distribution therefore shows that all respondents were within the 18–45-year-old age range, with nearly half belonging to the 26–35 age group.

In terms of years of service, the largest proportion of respondents had 3–4 years of service, comprising 45 respondents (45.00%). This was followed by those with 1–2 years of service, with 25 respondents (25.00%), and those with 5 years and above, with 20 respondents (20.00%). Meanwhile, 10 respondents (10.00%) had less than one year of service. The results indicate that most respondents had already accumulated several years of work experience, particularly those with three to four years of service.

Regarding educational attainment, all 100 respondents (100.00%) held a bachelor's degree, while no respondents reported having a master's or doctorate degree. This indicates a uniform educational profile among the participants, with all respondents possessing an undergraduate degree as their highest reported educational attainment.

In terms of area of assignment, the largest number of respondents were assigned to the Ward, with 41 respondents (41.00%). This was followed by Operating Room–Recovery Room/DR, with 22 respondents (22.00%), Emergency Room (ER), with 17 respondents (17.00%), Dialysis, with 12

respondents (12.00%), and Intensive Care Unit (ICU), with 8 respondents (8.00%). Thus, the respondents represented different clinical areas, although the largest proportion came from the Ward.

Overall, the respondents were predominantly female, aged 26–35 years, had 3–4 years of service, held a bachelor's degree, and were assigned to the ward. These findings provide a demographic profile of the participants and offer context for interpreting the succeeding results of the study. Kinnunen et al. (2023) reported variations in nurses' informatics competency across different domains, indicating that competency levels may differ depending on the specific skills assessed. These findings support the importance of examining each nursing informatics competency domain individually to identify the highest- and lowest-rated areas and determine where additional training and support may be needed.

2. What is the level of the nursing informatics competencies of respondents in terms of: Clinical informatics role;
Basic computer and knowledge skills; Applied computer skills in clinical informatics; Clinical informatics attitude; and Wireless devices?

Table 2. The level of nursing informatics competencies among the respondents

Domains	M	SD	Descriptive Level
Clinical Informatics Role	3.35	0.24	Very High
Basic Computer and Knowledge Skills	3.07	0.20	High
Applied Computer Skills in Clinical Informatics	3.22	0.22	High
Clinical Informatics Attitude	3.07	0.27	High
Wireless Skills	3.78	0.30	Very High
Overall Nursing Informatics Competencies	**3.30**	**0.13**	**Very High**

Note: SD (Standard Deviation); M (Mean)-1.00-1.74 (Very Low); 1.75-2.49 (Low); 2.50-3.24 (High); 3.25-4.00 (Very High)

Table 2 presents the level of nursing informatics competencies among the respondents across the identified domains. The results show that the respondents demonstrated generally high to very high levels of nursing informatics competencies, with the overall mean of 3.30 (SD = 0.13) interpreted as Very High. This implies that nurses are capable of integrating informatics in their performance of duty specifically records management.

Among the domains, Wireless Skills obtained the highest mean of 3.78 (SD = 0.30), described as Very High. This indicates that the respondents are adept in using or working with wireless technologies within the context of nursing informatics. The relatively low standard deviation also suggests that the respondents' ratings were fairly consistent in this domain.

In contrast, Basic Computer and Knowledge Skills and Clinical Informatics Attitude both obtained the lowest mean of 3.07. Basic Computer and Knowledge Skills had an SD of 0.20, while Clinical Informatics Attitude had an SD of 0.27. Although these domains obtained the lowest means among the indicators, both were still interpreted as High, indicating that the respondents manifested positive attitude and behavior towards informatics but comparatively lower than their competency in wireless skills.

Overall, the respondents obtained an overall mean score of 3.30 (SD = 0.13), indicating a very high level of nursing informatics competency. This finding highlights the respondents' ability to use information technology in nursing practice. Kinnunen et al. (2023) emphasized that nursing informatics competency is essential for effective use of health information systems, particularly in nursing documentation, digital work environments, and data protection. Their study highlights the importance

of developing nurses' informatics competencies to support effective technology use in healthcare. However, competency levels may vary across domains depending on nurses' exposure to technology, training, and clinical experiences.

Wireless skills obtained the highest rating, while basic computer and knowledge skills and clinical informatics attitude received the lowest mean scores of 3.07, although both remained at a high level. These differences suggest that the respondents may have been more confident in using wireless technologies than in certain foundational computer skills and informatics-related attitudes. Al-Qudah et al. (2025) examined nursing informatics competencies across different domains, highlighting the importance of assessing specific competencies to identify areas for improvement. These findings support the need for continuing education and targeted training to strengthen nurses' foundational computer skills and promote positive attitudes toward clinical information systems. Furthermore, regular hands-on training, practical workshops, and guided use of electronic health records may help nurses improve their technical proficiency and confidence in managing digital patient information. Nursing administrators may also implement competency-based assessments and periodic evaluations to identify learning needs and monitor improvements in informatics performance. Strengthening these areas may contribute to more accurate electronic documentation, efficient information management, and improved continuity of patient care.

3. What is the level of electronic documentation performance of respondents?

Table 3. The level of electronic documentation performance among the respondents

Statements	M	SD	Descriptive Level
1. The nurse documents patient care in the electronic FDAR system according to the nursing process.	3.00	0.00	High
2. The nurse documents relevant nursing diagnoses or identified nursing problems in the electronic FDAR record.	2.98	0.14	High
3. The nurse documents the intended goals or expected outcomes of nursing care in the electronic FDAR record.	2.15	0.36	Moderate
4. The nurse documents planned nursing interventions in the electronic FDAR record.	2.07	0.29	Moderate
5. The nurse documents the nursing interventions actually provided to the patient in the electronic FDAR record.	3.00	0.00	High
6. The nurse documents the patient's response or outcome following nursing interventions in the electronic FDAR record.	3.00	0.00	High
7. The nurse documents the significant nursing care needs and level of care provided to the patient in the electronic FDAR record.	2.42	0.50	High
8. The nurse documents relevant nursing information needed for continuity of care and discharge in the electronic FDAR record.	2.44	0.50	High
Overall Electronic Documentation Performance	**2.63**	**0.13**	**High**

Note: M (Mean); SD (Standard Deviation); 1.00-1.66 (Low); 1.67-2.33 (Moderate); 2.34-3.00 (High)

Table 3 presents the respondents' level of electronic documentation performance across eight indicators. Overall, the respondents obtained a mean of 2.63 (SD = 0.13), interpreted as High based on the study's three-point scale. This indicates that, in general, the respondents demonstrated a consistent level of performance in documenting nursing care using the electronic FDAR system. The relatively low standard deviation of the overall mean also suggests that the respondents' ratings were closely clustered around the average, reflecting comparatively consistent performance across the group.

The contribution of good digital skills is helpful in electronic documentation specially in health care setting. This can help for faster and more accurate documentation process (Torab-Miandoab, et al, 2025). The use of electronic documentation nurses helps nurses in doing documentation more convenient (Turchioe, 2025).

The highest means were recorded for documenting patient care according to the nursing process (M = 3.00, SD = 0.00), documenting nursing interventions actually provided (M = 3.00, SD = 0.00), and documenting patients' responses or outcomes following interventions (M = 3.00, SD = 0.00). These results indicate that these documentation activities were consistently rated to be good in consistency but still needs further improvement to attain the highest performance outcome desired.

The use of electronic nursing documentation can improve the accuracy of recorded patient information and support more efficient documentation practices (Eleke et al., 2024). Generation of data needed is much easier and can be transmitted to the members of the team anytime needed (Reid, et al, 2022).

In contrast, documenting planned nursing interventions obtained the lowest mean (M = 2.07, SD = 0.29), followed closely by documenting intended goals or expected outcomes of nursing care (M = 2.15, SD = 0.36); both were interpreted as low. This pattern suggests that, although overall electronic documentation performance was always, the planning-related components of documentation may require greater attention. Strengthening nurses' practice in recording planned interventions and expected outcomes may help improve the completeness and continuity of electronic nursing documentation.

International Council of Nurses (2023) put emphasis on the positive outcome of using electronic documentation that had been appreciated by nurses for it can lessen the time of document outcome. This lessens delay and loss of records. However, there is still a need to provide technical assistance to ensure nurses cope with this advancement in documentation process.

Overall, the respondents demonstrated a very high level of nursing informatics competency, highlighting their ability to use information technology in nursing practice. Kinnunen et al. (2023) emphasized that nursing informatics competency is essential for effective use of health information systems, particularly in nursing documentation and digital work environments. However, competency levels may vary across domains depending on nurses' exposure to technology, previous experience, and access to appropriate training and professional development.

Similarly, Wurster, et al (2022) concluded that electronic documentation is a beneficial move of health organizations in improving records management. This can lessen error and improve accessibility of information. Nonetheless, Kelley (2023) highlighted the importance of nursing informatics in advancing digital healthcare and supporting the effective management and use of clinical information. These insights support the relevance of nursing informatics competencies in electronic documentation, although they do not directly establish a relationship with FDAR-based documentation performance.

4. Is there a significant relationship between the extent of nursing informatics competencies and electronic documentation performance of the respondents?

Table 4. Test of relationship between the level of nursing informatics competencies and the level of electronic documentation performance among the respondents

Variables	Electronic Documentation Performance			
	r_s	p-value	Remarks	Decision
Clinical Informatics Role	0.157	0.118	Not Significant	Accept Ho
Basic Computer and Knowledge Skills	0.250	0.018	Significant	Reject Ho
Applied Computer Skills in Clinical Informatics	-0.128	0.206	Not Significant	Accept Ho
Clinical Informatics Attitude	0.020	0.844	Not Significant	Accept Ho
Wireless Skills	0.022	0.831	Not Significant	Accept Ho
Over-all Nursing Informatics Competencies	0.106	0.295	Not Significant	Accept Ho

Note: r_s (Spearman rho); p-value < 0.05 (Significant)

Table 4 presents the Spearman rank-order correlation results examining the relationship between the domains of nursing informatics competencies and electronic documentation performance. Among the domains, Basic Computer and Knowledge Skills showed a statistically significant positive association with electronic documentation performance ($\rho = 0.250$, $p = 0.018$). Since the p-value is below the 0.05 level of significance, the null hypothesis for this domain is rejected. The positive coefficient indicates that higher levels of basic computer and knowledge skills tend to be associated with higher electronic documentation performance, although the magnitude of the relationship is relatively weak.

Similarly, the study of International Council of Nurses (2023) put emphasis that knowledge in computer is foundation of competencies that has been significant in the improvement of records management who had adopted it. In relation to the study, it can be concluded that nurses who are knowledgeable and trained on informatics coped easily with electronic documentation that helped lessen the burden of recording nursing activities appropriately which agrees with Torab-Miandoab, et al. (2025) who pointed that knowledge in use of technology increase ability to use it for records management.

In contrast, Clinical Informatics Role ($\rho = 0.157$, $p = 0.118$), Applied Computer Skills in Clinical Informatics ($\rho = -0.128$, $p = 0.206$), Clinical Informatics Attitude ($\rho = 0.020$, $p = 0.844$), and Wireless Skills ($\rho = 0.022$, $p = 0.831$) did not demonstrate statistically significant relationships with electronic documentation performance because their p-values exceeded 0.05.

The conclusion of Liu, et al (2024) contradict the finding since the competency of nurses had shown significant influence in their ability to use electronic record management. But, in the study of Cachata, et al (2025) it revealed that even though the computer literacy and skills helped in online documentation competence of nurses are high still they are not directly correlated due to other factors.

The overall nursing informatics competencies score was likewise not significantly associated with electronic documentation performance ($\rho = 0.106$, $p = 0.295$). Thus, the null hypothesis for the overall score is not rejected. Taken together, the findings indicate that, among the competency domains examined, only Basic Computer and Knowledge Skills had a statistically significant bivariate relationship with electronic documentation performance. The results should be interpreted as evidence of association rather than causation; they do not establish that a competency domain directly causes changes in documentation performance.

The same findings were expressed by Kleib, et al (2022) who concluded that knowledge and competency in electronic documentation have significant relationship which means the higher the knowledge about using it, the more their ability to electronic documentation. However, Hamilton, et al (2022) mentioned that the high level of informatics competencies does not directly mean mastery of electronic documentation but this can help in coping with these changes.

CHAPTER 4
SUMMARY, CONCLUSION, AND RECOMMENDATION

This part is comprised of summary of the findings, conclusion and recommendation.

Summary

This study aimed to determine the relationship between nursing informatics competencies and FDAR-based electronic documentation performance among nurses in a government hospital in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM). Specifically, it sought to describe the respondents' demographic characteristics, assess their nursing informatics competencies in terms of clinical informatics role, basic computer and knowledge skills, applied computer skills in clinical informatics, clinical informatics attitude, and wireless skills, and evaluate their FDAR-based electronic documentation performance as assessed by their supervisors. The study employed a quantitative approach using a descriptive-correlational research design. Data were collected from 100 nurse respondents using an adapted questionnaire, and the results were analyzed using descriptive statistics and Spearman's rank-order correlation. The study also examined whether significant relationships existed between the different domains of nursing informatics competency and electronic documentation performance. Its purpose was to provide evidence that could guide nursing education, staff development, and hospital management in strengthening nurses' informatics competencies and improving the quality of FDAR-based electronic documentation in clinical practice.

Summary of Findings

This section presented the summary of findings based on the data collected and analyzed in relation to the study's objectives. It highlighted the respondents' demographic profile, nursing informatics competencies, FDAR-based electronic documentation performance, and the relationship between the study variables.

1. The respondents were predominantly female, with 45% aged 26–35 years and 45% having 3–4 years of service. All respondents (100%) held a bachelor's degree, while 41% were assigned to the ward.

2. The respondents demonstrated a very high level of nursing informatics competency, with an overall mean of 3.30. Wireless skills obtained the highest mean of 3.78, followed by clinical informatics role (M = 3.35), applied computer skills in clinical informatics (M = 3.22), and basic computer and knowledge skills (M = 3.07). Clinical informatics attitude also obtained a mean of 3.07. These findings indicate that the nurses demonstrated strong competency in using informatics in nursing practice.

3. The respondents demonstrated a high level of electronic documentation performance, with an overall mean of 2.63, indicating that they could perform their daily documentation tasks using electronic systems.

4. The test of relationship revealed a statistically significant positive association between basic computer and knowledge skills and electronic documentation performance. Therefore, the null hypothesis was rejected for this domain. However, clinical informatics role, applied computer skills in

clinical informatics, clinical informatics attitude, and wireless skills showed no statistically significant relationships with electronic documentation performance. Thus, the null hypothesis was not rejected for these domains.

Conclusion

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

1. The respondents demonstrate very high overall nursing informatics competency, indicating strong skills in using technology and digital tools for nursing documentation. Their wireless and mobile health technology skills received the highest ratings. However, basic computer and knowledge skills and overall attitudes toward informatics systems received comparatively lower ratings among the assessed competency domains.

2. The respondents demonstrate a high level of electronic documentation performance, reflecting their capability to use digital charting systems in clinical practice.

3. Clinical informatics role, applied computer skills in clinical informatics, clinical informatics attitude, and wireless skills did not demonstrate statistically significant relationships with FDAR-based electronic documentation performance.

4. Basic computer and knowledge skills demonstrated a weak but statistically significant positive relationship with electronic documentation performance. This establishes that nurses' knowledge and technical literacy are associated with their clinical documentation quality, suggesting that improving their digital skills may contribute to more efficient, accurate, and high-quality electronic patient records.

Recommendation

To maximize the positive influence of informatics competencies on charting performance, the following actions are highly recommended:

Nurses. Encourage to enhance their basic computer and knowledge skills through continuous training and practice to improve the accuracy, completeness, and efficiency of FDAR-based electronic documentation. They should also strengthen their digital skills, maintain a positive attitude toward informatics systems, and apply these competencies consistently to support quality patient care.

Nursing Administrators. Conduct regular FDAR documentation training, emphasizing how nursing goals, expected outcomes, and planned interventions can be clearly reflected within the existing Focus, Data, Action, and Response components. Regular chart audits and constructive feedback should be implemented to improve the completeness, accuracy, and quality of electronic nursing documentation.

Furthermore, practical electronic health record (EHR) charting workshops and basic computer skills training should be integrated into undergraduate and continuing nursing education programs. The nurses' high wireless skills should also be sustained and utilized by expanding the use of mobile charting applications and handheld clinical devices to streamline documentation workflows and support efficient patient care.

Hospital Administrators. Support continuous nursing informatics training, particularly in basic computer and knowledge skills, which showed a significant positive relationship with electronic documentation performance. They should also consider reviewing and improving the existing FDAR

electronic template to guide nurses in documenting nursing goals, expected outcomes, and planned interventions within the appropriate FDAR components. Furthermore, practical electronic health record (EHR) charting workshops and basic computer science principles should be strengthened in continuing nursing education programs, in coordination with academic institutions. The nurses' high wireless skills should also be sustained and maximized by expanding the use of mobile charting applications and handheld clinical devices to streamline documentation workflows and promote efficient patient care.

Future Researchers. Conduct further study that include chart audits, multi-site samples, and adjusted models to explore the specific barriers causing the lower attitude scores among nurses regarding clinical informatics.

Replicate this study across a broader demographic or separate institutional types (e.g., comparing public versus private hospitals) to validate if wireless skills remain the dominant competency across diverse healthcare settings.

Conduct a massive information drive to address the lower clinical informatics attitude scores by conducting seminars that explicitly highlight how informatics reduces nursing burnout, saves time, and directly protects patient safety, thereby fostering greater professional buy-in.

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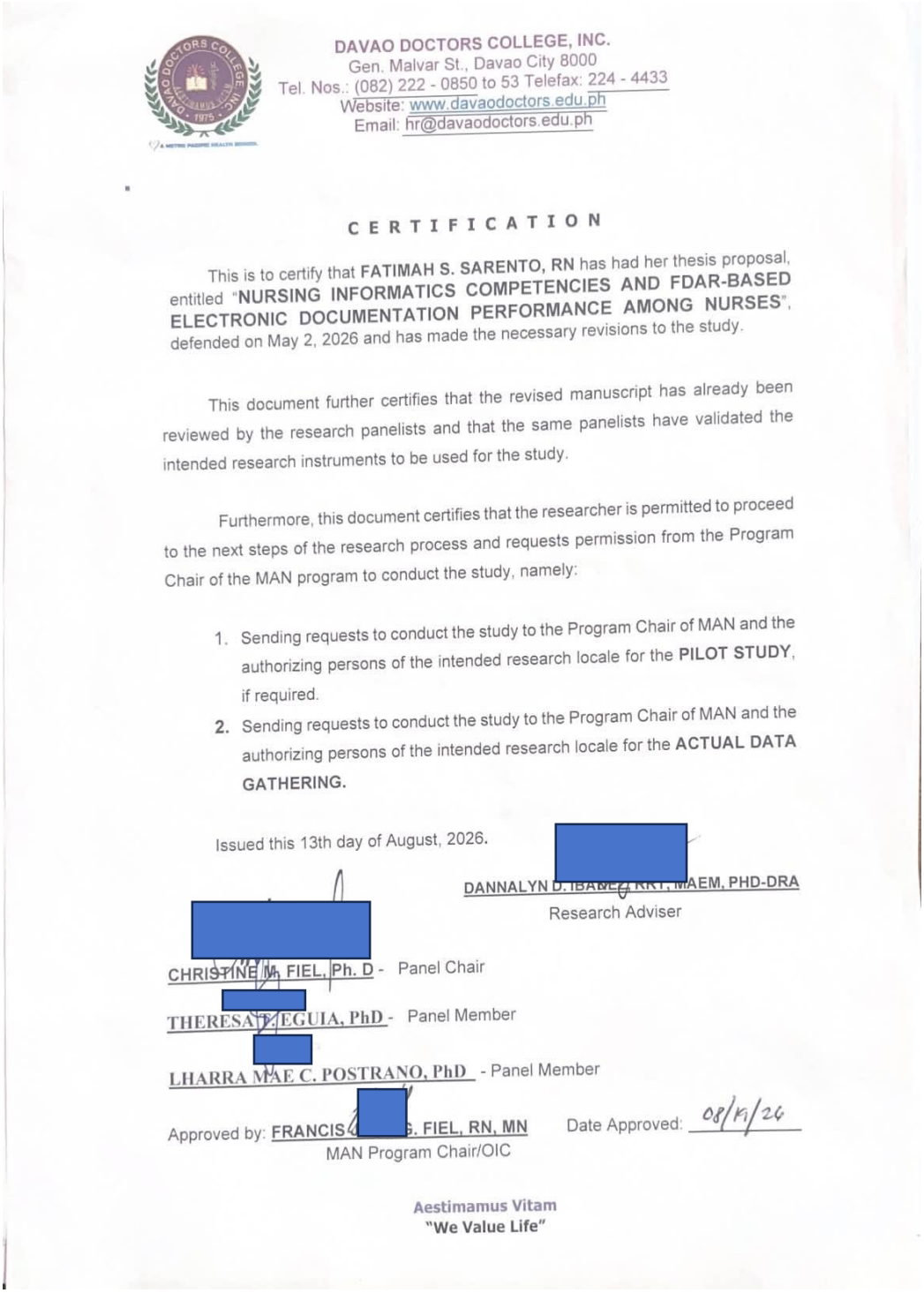
APPENDICES

APPENDIX A

LETTER FOF APPROVAL TO CONDUCT THE STUDY



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CERTIFICATION

This is to certify that **FATIMAH S. SARENTO, RN** has had her thesis proposal, entitled "**NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES**", defended on May 2, 2026 and has made the necessary revisions to the study.

This document further certifies that the revised manuscript has already been reviewed by the research panelists and that the same panelists have validated the intended research instruments to be used for the study.

Furthermore, this document certifies that the researcher is permitted to proceed to the next steps of the research process and requests permission from the Program Chair of the MAN program to conduct the study, namely:

1. Sending requests to conduct the study to the Program Chair of MAN and the authorizing persons of the intended research locale for the **PILOT STUDY**, if required.
2. Sending requests to conduct the study to the Program Chair of MAN and the authorizing persons of the intended research locale for the **ACTUAL DATA GATHERING.**

Issued this 13th day of August, 2026.

DANNALYN D. IBAÑEZ, RRT, MAEM, PHD-DRA
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LHARRA MAE C. POSTRANO, PhD - Panel Member

Approved by: FRANCIS [illegible]. FIEL, RN, MN
MAN Program Chair/OIC

Date Approved: 08/11/26

Aestimamus Vitam
"We Value Life"

APPENDIX B-I
1ST VALIDATED QUESTIONNAIRE

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did not provide revised factual questionnaire
8/1/24

CONTENT VALIDITY INDEX FORM

Title of the Study: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES

Researcher: FATIMAH S. SARENTO, RN

Title of the Instrument for Validation: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE

please reassess how to measure performance
8/10/24

Dear Experts,

The researcher seeks your expert judgment on the significance of each item being measured. This unidimensional questionnaire has 38 items intended to measure the nursing informatics competencies and FDAR-based electronic documentation performance among nurses (*kindly see the separate page about the full structure of the questionnaire*). You can use the instructions below to help you with your analysis. Please rate each item in your review using the following scale, being as objective as you can.

INSTRUCTION: This instrument is used for the **EXPERT EVALUATOR** to assess the relevance and effectiveness of the instrument that is validating. Please put a "✓" symbol that you consider appropriate to the different statement based on the following scale:

4 – The Item is **Highly Relevant**	**2** – The Item is **Somewhat Relevant**
3 – The Item is **Quite Relevant**	**1** – The Item is **Not Relevant**

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Instruction: Please indicate your level of agreement with each statement by checking (✓) the appropriate box.

Scale	Verbal Description
5	Strongly Agree
4	Agree
3	Neither Agree nor Disagree
2	Disagree
1	Strongly Disagree

Clinical Informatic Role	5	4	3	2	1
1. As a nurse, I am able to use computer-based resources to support ethical decision-making clinical practice.					
2. As a nurse, I support nursing leaders in implementing information system in clinical practice.					
3. As a nurse, I am able to encourage myself and others to use information systems or application programs					
4. As a nurse, I am able to ensure the integrity and accessibility of health information while maintaining confidentiality and complying with legal, ethical, and security standards in clinical practice.					

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5. As a nurse, I am able to participate in the processes of selection, design, application, and evaluation of an information system.					
Basic Computer Skills	**5**	**4**	**3**	**2**	**1**
1.I am able to search and download contents of interest					
2.I am able to use a multimedia presentation program					
3.I am able to use a word processor					
4.I am able to use an operating system (e.g. folder copy, deletion, edition)					
5.I am able to use a communication network (e.g. file server, internet) for system search					
6.I am able to use a computer system in a safe way					
7.I am able to use a database program to build a simple database or to make a table					
8.I am able to use electronic telecommunication devices (e.g. WIFI, LAN, bluetooth) for communication with other systems.					
9.I am able to use computer peripheral devices (e.g. USB flash drive, External storage device, Scanner).					
10.I am able to use a presentation program (e.g. PowerPoint) for making slides or screens					

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11.I am able to use a database application program to enter and search information					
12. I am able to manipulate the operation system (e.g. file handling, printer setting).					
13. I am able to do an online literature search					
14.I am able to view the basic configuration of a computer system					
15.I am able to solve minor problems in software applications.					
Attitudes toward clinical informatics	**5**	**4**	**3**	**2**	**1**
1. I believe that digital health technology, namely, computer-based medical services, will be popularized further.					
2. I am able to use clinical software program relevant to nursing practice.					
3. I do not think that a nurse has to be a computer programmer for the effective use of the computer.					
4. I am able to use clinical documentation and coding system appropriate to my role.					
Application of computer skills	**5**	**4**	**3**	**2**	**1**
1. I am able to log in to the patient medical information system (authorization using personal ID and password)					

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2. I am able to use software applications for creating clinical forms, reports, or assessment tools.					
3. I am able to search data in the patient medical information system					
Wireless device skills	**5**	**4**	**3**	**2**	**1**
1. I am able to use wireless devices (e.g. Tablet, smartphone) for data input.					
2. I am able to use wireless devices to search and download resources for patient safety and quality nursing services.					

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Part 3. Level of Electronic Documentation Performances of Nurses

Instruction: Please indicate your level of agreement with each statement by checking (✓) the appropriate box.

Scale	Verbal Description
5	Strongly Agree
4	Agree
3	Neither Agree nor Disagree
2	Disagree
1	Strongly Disagree

Indicator	5	4	3	2	1
1. Documentation of patient care according to the nursing process.					
2. Documentation of nursing diagnosis (FiCND).					
3. Documentation of the aims of the planned care.					
4. Documentation of planned nursing interventions (FiCNI).					
5. Documentation of nursing interventions (FiCNI).					

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6. Documentation of the assessment of patient outcomes (FiCNO).					
7. Documentation of patient care intensity.					
8. Documentation of nursing discharge summary.					

Comment/s and/or Suggestion/s:

Evaluator's Signature over Printed Name

Date

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Part 3. Level of Electronic Documentation Performances of Nurses

Instruction: Please indicate your level of agreement with each statement by checking (✓) the appropriate box.

Scale	Verbal Description
5	Strongly Agree
4	Agree
3	Neither Agree nor Disagree
2	Disagree
1	Strongly Disagree

Indicator	5	4	3	2	1
1. Documentation of patient care according to the nursing process.					
2. Documentation of nursing diagnosis (FiCND).					
3. Documentation of the aims of the planned care.					
4. Documentation of planned nursing interventions (FiCNI).					
5. Documentation of nursing interventions (FiCNI).					

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6. Documentation of the assessment of patient outcomes (FiCNO).					
7. Documentation of patient care intensity.					
8. Documentation of nursing discharge summary.					

Comment/s and/or Suggestion/s:

Evaluator's Signature over Printed Name

Date

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APPENDIX B-II
2ND VALIDATED QUESTIONNAIRE

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CONTENT VALIDITY INDEX FORM

Title of the Study: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES

Researcher: FATIMAH S. SARENTO, RN

Title of the Instrument for Validation: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES QUESTIONNAIRE

Dear Experts,

The researcher seeks your expert judgment on the significance of each item being measured. This unidimensional questionnaire has 38 items intended to measure the nursing informatics competencies and FDAR-based electronic documentation performance among nurses (*kindly see the separate page about the full structure of the questionnaire*). You can use the instructions below to help you with your analysis. Please rate each item in your review using the following scale, being as objective as you can.

INSTRUCTION: This instrument is used for the **EXPERT EVALUATOR** to assess the relevance and effectiveness of the instrument that is validating. Please put a "✓" symbol that you consider appropriate to the different statement based on the following scale:

4 – The Item is **Highly Relevant**	2 – The Item is **Somewhat Relevant**
3 – The Item is **Quite Relevant**	1 – The Item is **Not Relevant**

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Clinical Informatic Role	1	2	3	4
1. As a nurse, I am able to use computer-based resources to support ethical decision-making clinical practice.				
2. As a nurse, I support nursing leaders in implementing information system in clinical practice.				
3. As a nurse, I am able to encourage myself and others to use information systems or application programs				
4. I am able to ensure the integrity and accessibility of health information while maintaining confidentiality and complying with legal, ethical, and security standards in clinical practice.				
5. As a nurse, I am able to participate in the processes of selection, design, application, and evaluation of an information system.				

Basic Computer Skills	1	2	3	4
6. I am able to search and download contents of interest.				
7. I am able to use a multimedia presentation program.				
8. I am able to use a word processor.				
9. I am able to use an operating system (e.g. folder				

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copy, deletion, edition).				
10. I am able to use a communication network (e.g. file server, internet) for system search.				
11. I am able to use a computer system in a safe way.				
12. I am able to use a database program to build a simple database or to make a table.				
13. I am able to use electronic telecommunication devices (e.g. WIFI, LAN, Bluetooth) for communication with other systems.				
14. I am able to use computer peripheral devices (e.g. USB flash drive, External storage device, Scanner).				
15. I am able to use a presentation program (e.g. internet or web-based systems) for making slides or screens				
16. I am able to use a database application program to enter and search information				
17. I am able to manipulate the operation system (e.g. file handling, printer setting).				
18. I am able to do an online literature search.				
19. I am able to view the basic configuration of a computer system.				
20. I am able to solve minor problems in software application.				

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Attitudes toward clinical informatics	1	2	3	4
21. I believe that digital health technology, namely, computer-based medical services, will be popularized further.				✓
22. I am able to use clinical software program relevant to nursing practice.				✓
23. I do not think that a nurse has to be a computer programmer for the effective use of the computer.				✓
24. I am able to use clinical documentation and coding system appropriate to my role.				✓

Application of computer skills	1	2	3	4
25. I am able to log in to the patient medical information system (authorization using personal ID and password).				✓
26. I am able to use an application program for developing a test tool.				✓
27. I am able to search data in the patient medical information system				✓

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28. I am able to use an application program for diagnosis coding				

Wireless device skills	1	2	3	4
29. I am able to use wireless devices (e.g. Tablet, smartphone mobile) for data input.				
30. I am able to use wireless devices to search and download resources for patient safety and quality nursing services.				

Part 3. Level of Electronic Documentation Performances of Nurses

Indicator	1	2	3	4
31. Documentation of patient care according to the nursing process.				
32. Documentation of nursing diagnosis (FiCND)				
33. Documentation of the aims of the planned care.				
34. Documentation of planned nursing interventions (FiCNI).				
35. Documentation of nursing interventions (FiCNI).				

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36. Documentation of the assessment of patient outcomes (FiCNO).				
37. Documentation of patient care intensity.				
38. Documentation of nursing discharge summary.				

Comment/s and/or Suggestion/s:

Evaluator's Signature over Printed Name

Date

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APPENDIX B-III
3RD VALIDATED QUESTIONNAIRE

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CONTENT VALIDITY INDEX FORM

Title of the Study: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES

Researcher: FATIMAH S. SARENTO, RN

Title of the Instrument for Validation: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE

Dear Experts,

The researcher seeks your expert judgment on the significance of each item being measured. This unidimensional questionnaire has 38 items intended to measure the nursing informatics competencies and FDAR-based electronic documentation performance among nurses (*kindly see the separate page about the full structure of the questionnaire*). You can use the instructions below to help you with your analysis. Please rate each item in your review using the following scale, being as objective as you can.

INSTRUCTION: This instrument is used for the **EXPERT EVALUATOR** to assess the relevance and effectiveness of the instrument that is validating. Please put a "✓" symbol that you consider appropriate to the different statement based on the following scale:

4 – The Item is **Highly Relevant**
3 – The Item is **Quite Relevant**
2 – The Item is **Somewhat Relevant**
1 – The Item is **Not Relevant**

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Clinical Informatic Role	1	2	3	4
1. As a nurse, I am able to use computer-based resources to support ethical decision-making clinical practice.				✓
2. As a nurse, I support nursing leaders in implementing information system in clinical practice.				✓
3. As a nurse, I am able to encourage myself and others to use information systems or application programs				✓
4. I am able to ensure the integrity and accessibility of health information while maintaining confidentiality and complying with legal, ethical, and security standards in clinical practice.				✓
5. As a nurse, I am able to participate in the processes of selection, design, application, and evaluation of an information system.				✓

Basic Computer Skills	1	2	3	4
6. I am able to search and download contents of interest.				✓
7. I am able to use a multimedia presentation program.				✓
8. I am able to use a word processor.				✓
9. I am able to use an operating system (e.g. folder				✓

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copy, deletion, edition).				
10. I am able to use a communication network (e.g. file server, internet) for system search.				✓
11. I am able to use a computer system in a safe way.				✓
12. I am able to use a database program to build a simple database or to make a table.				✓
13. I am able to use electronic telecommunication devices (e.g. WIFI, LAN, Bluetooth) for communication with other systems.				✓
14. I am able to use computer peripheral devices (e.g. USB flash drive, External storage device, Scanner).				✓
15. I am able to use a presentation program (e.g. internet or web-based systems) for making slides or screens				✓
16. I am able to use a database application program to enter and search information				✓
17. I am able to manipulate the operation system (e.g. file handling, printer setting).				✓
18. I am able to do an online literature search.				✓
19. I am able to view the basic configuration of a computer system.				✓
20. I am able to solve minor problems in software application.				✓

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Attitudes toward clinical informatics	1	2	3	4
21. I believe that digital health technology, namely, computer-based medical services, will be popularized further.				✓
22. I am able to use clinical software program relevant to nursing practice.				✓
23. I do not think that a nurse has to be a computer programmer for the effective use of the computer.				✓
24. I am able to use clinical documentation and coding system appropriate to my role.				✓

Application of computer skills	1	2	3	4
25. I am able to log in to the patient medical information system (authorization using personal ID and password).				✓
26. I am able to use an application program for developing a test tool.				✓
27. I am able to search data in the patient medical information system				✓

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28. I am able to use an application program for diagnosis coding				✓

Wireless device skills	1	2	3	4
29. I am able to use wireless devices (e.g. Tablet, smartphone mobile) for data input.				✓
30. I am able to use wireless devices to search and download resources for patient safety and quality nursing services.				✓

Part 3. Level of Electronic Documentation Performances of Nurses

Indicator	1	2	3	4
31. Documentation of patient care according to the nursing process.			✓	
32. Documentation of nursing diagnosis (FiCND)			✓	
33. Documentation of the aims of the planned care.			✓	
34. Documentation of planned nursing interventions (FiCNI).			✓	
35. Documentation of nursing interventions (FiCNI).			✓	

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36. Documentation of the assessment of patient outcomes (FiCNO).			✓	
37. Documentation of patient care intensity.			✓	
38. Documentation of nursing discharge summary.			✓	

Comment/s and/or Suggestion/s:

Suggestion: in measuring performance, it would be more credible if it was measured through appraisals or evaluation tools rather than perception of the respondents.

[redacted]
Dean-College of Allied Health Sciences
Davao Doctors College, Inc.
Evaluator's Signature over Printed Name

Date 13 AUG 2026

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SURVEY QUESTIONNAIRE

Title of the Study: " NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES"

Instruction: Please provide the following information by placing a **check mark (✓)** on the appropriate blank corresponding to your answer. **Select only one answer for each item** and choose the category that best describes your current demographic and professional profile. All information provided will be treated with strict confidentiality and will be used solely for the purposes of this study.

Part 1. Demographic Profile of the Respondents

Age: 18-25 ____

26-35____

36-45____

46-55____

56 and above ____

Sex: Male _____

Female____

Educational Attainment: College graduate ____

Master's Degree____

Doctorate Degree_____

Area of Assignment:

ER _____

OR/DR _____

1

WARD _____

Special Area ____

Years in Service

0-11 months _____

1 year to 2 years ____

3-4 years _____

5 years and above _____

Part 2. Extent of Nursing Informatics Competencies of Nurses

Instructions: Please read each statement carefully and assess your current level of competency in performing each nursing informatics skill. Place a check mark (✓) in the box that best represents your level of mastery of each competency. Select only one response for each statement.

Use the following scale:

Scale	Verbal Description	Meaning
4	Excellent	I can perform the competency independently, confidently, and effectively.
3	Good	I can perform the competency independently with minimal difficulty.
2	Fair	I can perform the competency but may require some assistance or experience some difficulty.
1	Weak	I have limited ability to perform the competency and require substantial assistance.

2

Clinical Informatic Role	4	3	2	1
1. As a nurse, I am able to use computer-based resources to support ethical decision-making clinical practice.				
2. As a nurse, I support nursing leaders in implementing information system in clinical practice.				
3. As a nurse, I am able to encourage myself and others to use information systems or application programs				
4. I am able to ensure the integrity and accessibility of health information while maintaining confidentiality and complying with legal, ethical, and security standards in clinical practice.				
5. As a nurse, I am able to participate in the processes of selection, design, application, and evaluation of an information system.				
Basic Computer Skills	**4**	**3**	**2**	**1**
1.I am able to search and download contents of interest				
2.I am able to use a multimedia presentation program				
3.I am able to use a word processor				
4.I am able to use an operating system (e.g. folder copy, deletion, edition)				

5.I am able to use a communication network (e.g. file server, internet) for system search.				
6.I am able to use a computer system in a safe way.				
7.I am able to use a database program to build a simple database or to make a table.				
8. I am able to use electronic telecommunication devices (e.g. WIFI, LAN, Bluetooth) for communication with other systems.				
9. I am able to use computer peripheral devices (e.g. USB flash drive, External storage device, Scanner).				
10. I am able to use a presentation program (e.g. internet or web-based systems) for making slides or screens				
11. I am able to use a database application program to enter and search information				
12. I am able to manipulate the operation system (e.g. file handling, printer setting).				
13. I am able to do an online literature search.				
14.I am able to view the basic configuration of a computer system.				
15. I am able to solve minor problems in software application.				

Attitudes toward clinical informatics	**4**	**3**	**2**	**1**
1. I believe that digital health technology, namely, computer-based medical services, will be popularized further.				
2. I am able to use clinical software program relevant to nursing practice.				
3. I do not think that a nurse has to be a computer programmer for the effective use of the computer.				
4. I am able to use clinical documentation and coding system appropriate to my role.				
Application of computer skills	**4**	**3**	**2**	**1**
1. I am able to log in to the patient medical information system (authorization using personal ID and password).				
2. I am able to use an application program for developing a test tool.				
3. I am able to search data in the patient medical information system				
4. I am able to use an application program for diagnosis coding				
Wireless device skills	**4**	**3**	**2**	**1**
1. I am able to use wireless devices (e.g. Tablet, smartphone mobile) for data input.				
2. I am able to use wireless devices to search and download resources for patient safety and quality nursing services.				

(Source:Yoon S, Yen PY, Bakken S. (2009) (Psychometric properties of the assessment of nursing informatics competencies scale. Stud Health Technol Inform. 2009146:546-50. PMID: 19592902; PMCID: PMC2858312.)

Part 3. Level of Electronic Documentation Performances of Nurses

Instruction: Please read each statement carefully and indicate how often nurses perform each electronic FDAR documentation practice in your current nursing practice. Put a check mark (✓) in the box that best represents your response.

Use the following scale:

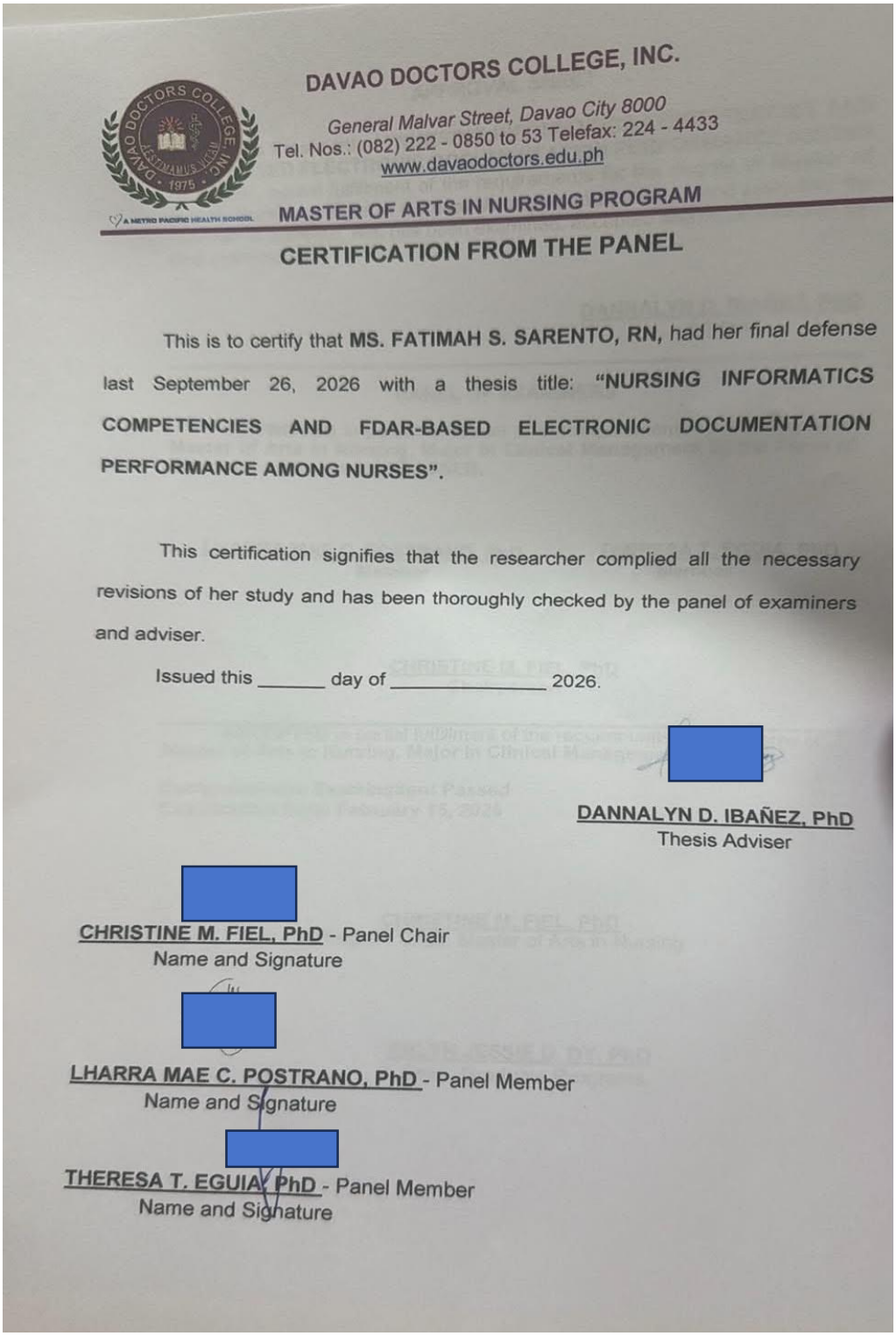
Score	Response	Meaning
3	**Always**	Performs the documentation practice consistently
2	**Sometimes**	Performs the documentation practice inconsistently/occasionally
1	**Never**	Does not perform the documentation practice

Indicator	3	2	1
1. The nurse documents patient care in the electronic FDAR system according to the nursing process.			
2. The nurse documents relevant nursing diagnoses or identified nursing problems in the electronic FDAR record.			
3. The nurse documents the intended goals or expected outcomes of nursing care in the electronic FDAR record.			
4. The nurse documents planned nursing interventions in the electronic FDAR record.			

5. The nurse documents the nursing interventions actually provided to the patient in the electronic FDAR record.			
6. The nurse documents the patient's response or outcome following nursing interventions in the electronic FDAR record.			
7. The nurse documents the significant nursing care needs and level of care provided to the patient in the electronic FDAR record.			
8. The nurse documents relevant nursing information needed for continuity of care and discharge in the electronic FDAR record.			

(Source:Kinnunen, Ulla-Mari FIAHSI; Kuusisto, Anne PhD; Koponen, Samuli MSc; Ahonen, Outi PhD; Kaihlanen, Anu-Marja PhD; Hassinen, Tiina MNSc, MSc; Vehko, Tuulikki PhD. Nurses' Informatics Competency Assessment of Health Information System Usage: A Cross-sectional Survey. CIN: Computers, Informatics, Nursing 41(11):p 869-876, November 2023.)

APPENDIX C
CERTIFICATE FROM TECHNICAL PANNELS



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MASTER OF ARTS IN NURSING PROGRAM

CERTIFICATION FROM THE PANEL

This is to certify that **MS. FATIMAH S. SARENTO, RN,** had her final defense last September 26, 2026 with a thesis title: **"NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES".**

This certification signifies that the researcher complied all the necessary revisions of her study and has been thoroughly checked by the panel of examiners and adviser.

Issued this _____ day of _____ 2026.

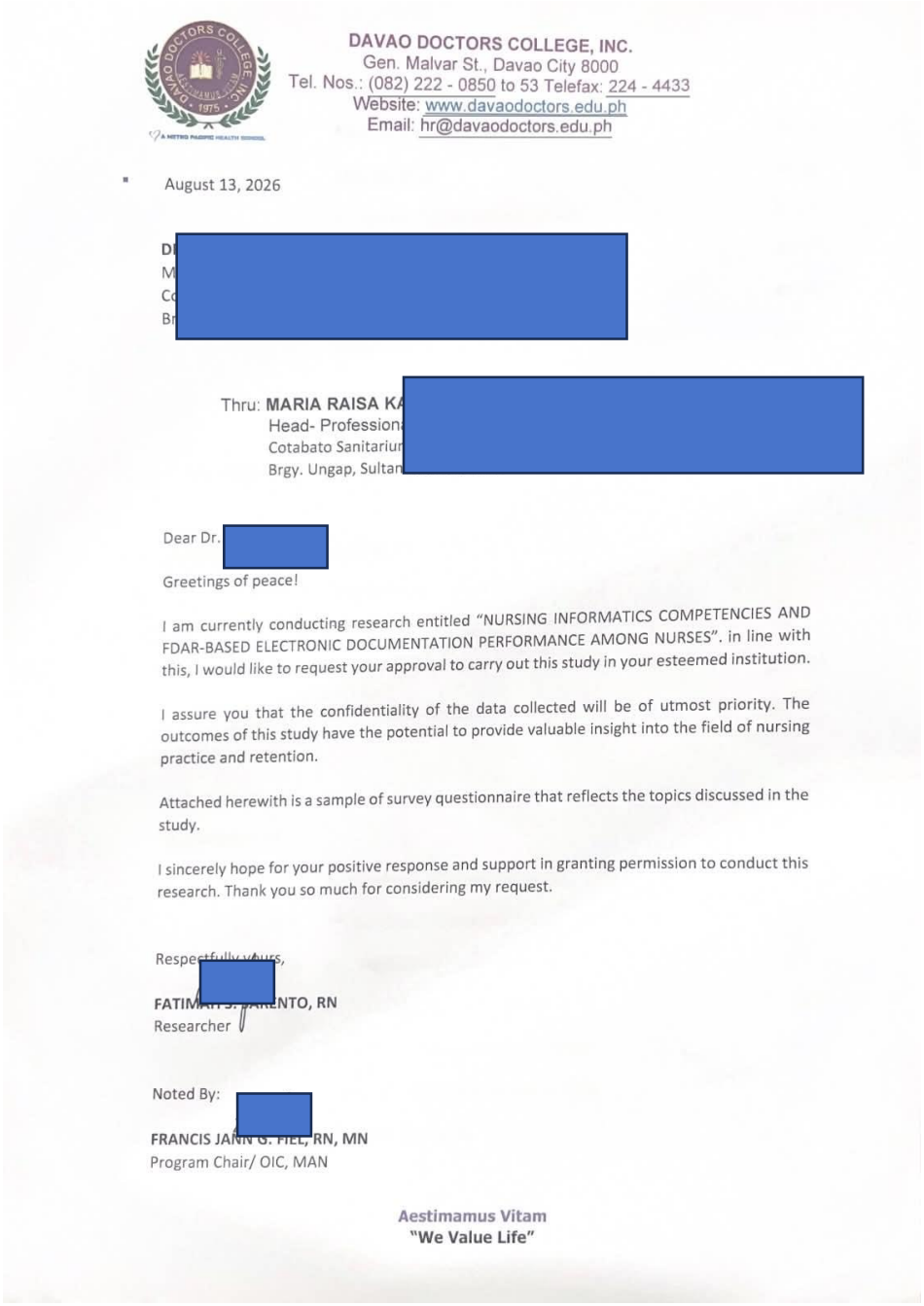
DANNALYN D. IBAÑEZ, PhD
Thesis Adviser

CHRISTINE M. FIEL, PhD - Panel Chair
Name and Signature

LHARRA MAE C. POSTRANO, PhD - Panel Member
Name and Signature

THERESA T. EGUIA, PhD - Panel Member
Name and Signature

APPENDIX D
LETTER TO INSTITUTION TO GATHER DATA



DAVAO DOCTORS COLLEGE, INC.
Gen. Malvar St., Davao City 8000
Tel. Nos.: (082) 222 - 0850 to 53 Telefax: 224 - 4433
Website: www.davaodoctors.edu.ph
Email: hr@davaodoctors.edu.ph

August 13, 2026

[redacted]

Thru: MARIA RAISA KA[redacted]
Head- Professiona[redacted]
Cotabato Sanitarium[redacted]
Brgy. Ungap, Sultan[redacted]

Dear Dr. [redacted]

Greetings of peace!

I am currently conducting research entitled "NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES". in line with this, I would like to request your approval to carry out this study in your esteemed institution.

I assure you that the confidentiality of the data collected will be of utmost priority. The outcomes of this study have the potential to provide valuable insight into the field of nursing practice and retention.

Attached herewith is a sample of survey questionnaire that reflects the topics discussed in the study.

I sincerely hope for your positive response and support in granting permission to conduct this research. Thank you so much for considering my request.

Respectfully yours,

[redacted]

FATIMAH S. [redacted]NTO, RN
Researcher

Noted By:

[redacted]

FRANCIS JANN G. [redacted], RN, MN
Program Chair/ OIC, MAN

Aestimamus Vitam
"We Value Life"

[redacted]

August 25, 2026

[redacted]

[redacted]

Dear D[redacted],

Greetings!

This is to formally endorse and recommend approval of the request of **Ms. Fatimah S. Sarento, RN**, of **Davao Doctors College, Inc.**, to conduct her research entitled **"Nursing Informatics Competencies and FDAR-Based Electronic Documentation Performance Among Nurses"** at G[redacted]

The study has already secured **ethics approval** and will involve qualified nurses as respondents. We respectfully recommend that permission be granted for its conduct within the institution, subject to existing hospital policies and guidelines. The researcher shall ensure confidentiality of all gathered data and that the study will not disrupt hospital operations or patient care.

Thank you for your kind consideration and support.

Respectfully,

M[redacted]a, MD

H[redacted]

[redacted]

[redacted]

APPENDIX E

INFORMED CONSENT FORM

Title of the Study: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES

Name of the Researcher: Fatimah S. Sarento, RN

Dear Respondents,

You are invited to a research study conducted by Fatimah S. Sarento, RN at Davao Doctors College because you fit the inclusion criteria for informants of the study.

Please read the information below, and ask questions about anything you do not understand, before deciding whether to participate in this study. Please take as much time as you need to read the consent form. If you volunteer to participate, you will be asked to answer the survey questionnaire which you can finish within 5- 10 minutes.

Purpose of the Research

The study aims to determine the relationship of nursing informatics competencies to the electronic documentation performance of nurses in Sanitarium and General Hospital.

Risks and Benefits

The study presents minimal risk to participants, as it only involves the completion of questionnaires related to nursing informatics competencies and FDAR-based electronic documentation performance. However, some participants may experience mild discomfort when assessing their own competencies or performance. The benefits of the study include identifying gaps in nursing informatics skills and FDAR documentation practices, which may serve as a basis for targeted training and institutional improvements. The findings may also support evidence-based strategies to enhance documentation quality and nursing efficiency.

Voluntary Participation

This study is voluntary, which means you have the right to refuse in participating if you do not feel comfortable in any way. Also, you are not waiving any legal claims, rights, or remedies because you participate in the study. In addition, even if you have initially decided to participate in this study, you are still free to withdraw anytime without penalty if you feel you are not comfortable with the given questions.

Privacy and Confidentiality

In the gathering, retention, and processing of personal data, researchers follow the criteria of transparency, legitimate purpose, and proportionality (Data Privacy Act of 2012). We will keep your records for this study confidential and private as far as permitted by the law. If in the future, this research study will be published, any information indicated in the material would not reveal your identity in any way. Furthermore, any person who is not connected with the study will be declined of any relevant information. The data gathered in this study will be kept strictly confidential and will be accessible only to the researcher. Lastly, all the raw data will be disposed of accordingly after the study.

For more inquiries about the research, please feel free to contact the researcher at Davao Doctors College, Inc. Master of Arts in Nursing Program at 222-0850 to 53 local 127.

You may also contact the researcher through this number 0956-1932-784 or thru email address: fsarento21@gmail.com.

Respectfully Yours,

FATIMAH S. SARENTO, RN

Researcher

RESEARCH PARTICIPANT'S CONSENT

I have read the information provided above. I have been given a chance to ask questions. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form. I can withdraw my consent at any time and discontinue participation without penalty.

_____ _____

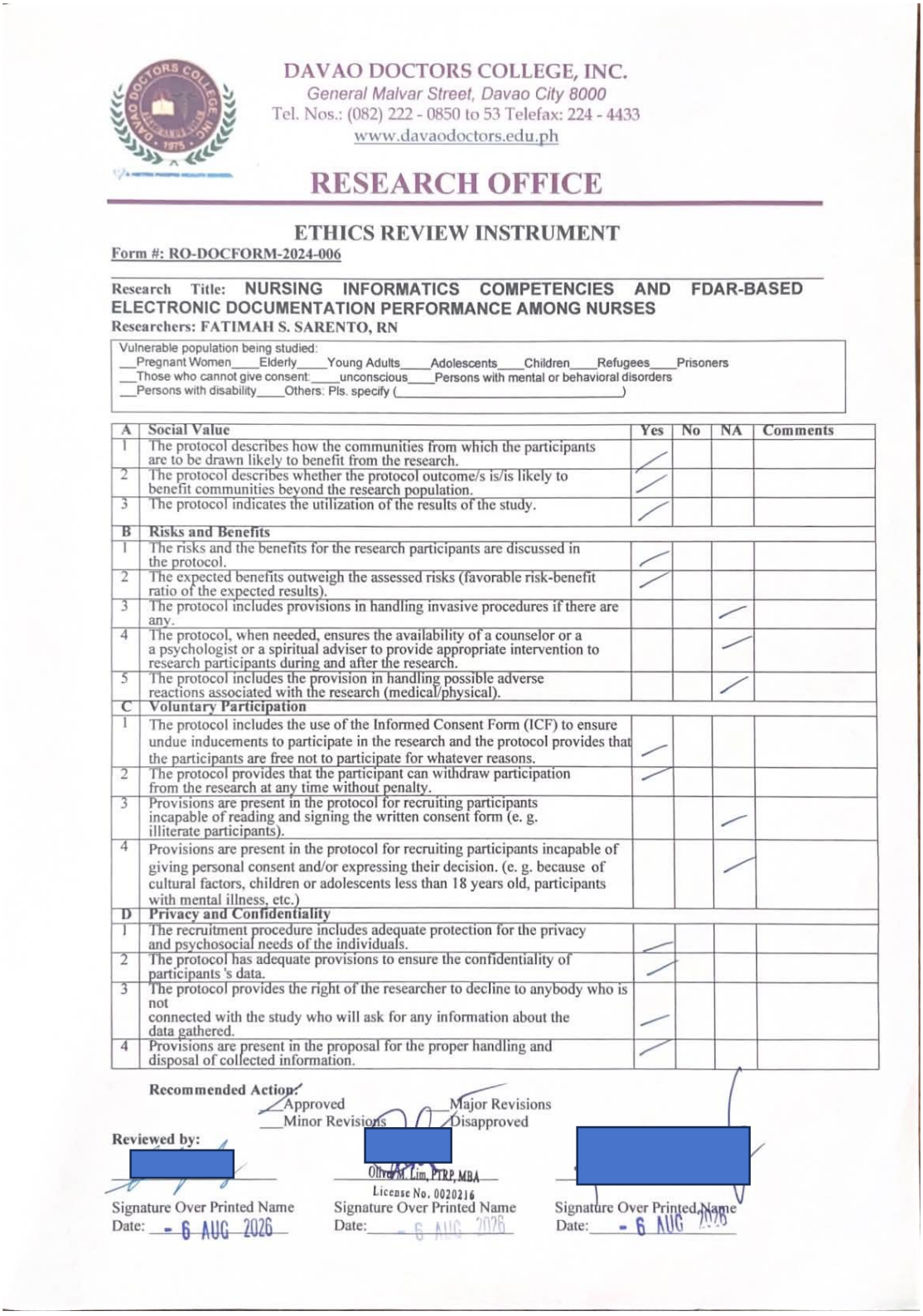
Signature above Printed Name of Participant Date Signed

To be accomplished by the researcher obtaining consent:
I have explained the research to the participant and answered all of his/her questions. I believe that he/she understands the information described in this document and freely consents to participate.

FATIMAH S. SARENTO, RN _____

Name of Person Obtaining Consent Date Signed

APPENDIX F
ETHICS CERTIFICATE



DAVAO DOCTORS COLLEGE, INC.
General Malvar Street, Davao City 8000
Tel. Nos.: (082) 222 - 0850 to 53 Telefax: 224 - 4433
www.davaodoctors.edu.ph

RESEARCH OFFICE

ETHICS REVIEW INSTRUMENT

Form #: RO-DOCFORM-2024-006

Research Title: NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES

Researchers: FATIMAH S. SARENTO, RN

Vulnerable population being studied:
__Pregnant Women____Elderly_____Young Adults_____Adolescents____Children____Refugees____Prisoners
__Those who cannot give consent:_____unconscious____Persons with mental or behavioral disorders
__Persons with disability_____Others: Pls. specify (_____)

A	Social Value	Yes	No	NA	Comments
1	The protocol describes how the communities from which the participants are to be drawn likely to benefit from the research.	✓			
2	The protocol describes whether the protocol outcome/s is/is likely to benefit communities beyond the research population.	✓			
3	The protocol indicates the utilization of the results of the study.	✓			
B	**Risks and Benefits**				
1	The risks and the benefits for the research participants are discussed in the protocol.	✓			
2	The expected benefits outweigh the assessed risks (favorable risk-benefit ratio of the expected results).	✓			
3	The protocol includes provisions in handling invasive procedures if there are any.			✓	
4	The protocol, when needed, ensures the availability of a counselor or a a psychologist or a spiritual adviser to provide appropriate intervention to research participants during and after the research.			✓	
5	The protocol includes the provision in handling possible adverse reactions associated with the research (medical/physical).			✓	
C	**Voluntary Participation**				
1	The protocol includes the use of the Informed Consent Form (ICF) to ensure undue inducements to participate in the research and the protocol provides that the participants are free not to participate for whatever reasons.	✓			
2	The protocol provides that the participant can withdraw participation from the research at any time without penalty.	✓			
3	Provisions are present in the protocol for recruiting participants incapable of reading and signing the written consent form (e. g. illiterate participants).			✓	
4	Provisions are present in the protocol for recruiting participants incapable of giving personal consent and/or expressing their decision. (e. g. because of cultural factors, children or adolescents less than 18 years old, participants with mental illness, etc.)			✓	
D	**Privacy and Confidentiality**				
1	The recruitment procedure includes adequate protection for the privacy and psychosocial needs of the individuals.	✓			
2	The protocol has adequate provisions to ensure the confidentiality of participants 's data.	✓			
3	The protocol provides the right of the researcher to decline to anybody who is not connected with the study who will ask for any information about the data gathered.	✓			
4	Provisions are present in the proposal for the proper handling and disposal of collected information.	✓			

Recommended Action:
✓ Approved ___Major Revisions
___Minor Revisions ___Disapproved

Reviewed by:

[redacted]
Signature Over Printed Name
Date: - 6 AUG 2026

[redacted]
Olive M. Lim, PTRP, MBA
License No. 0020216
Signature Over Printed Name
Date: - 6 AUG 2026

[redacted]
Signature Over Printed Name
Date: - 6 AUG 2026

APPENDIX G
RELIABILITY TEST RESULTS

TEST OF NORMALITY

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
CLINICAL INFORMATIC ROLE	100	100.0%	0	0.0%	100	100.0%
BASIC COMPUTER SKILLS	100	100.0%	0	0.0%	100	100.0%
ATTITUDE	100	100.0%	0	0.0%	100	100.0%
APPLICATION	100	100.0%	0	0.0%	100	100.0%
WIRELESS	100	100.0%	0	0.0%	100	100.0%
NIC	100	100.0%	0	0.0%	100	100.0%
EDP	100	100.0%	0	0.0%	100	100.0%

Descriptives

			Statistic	Std. Error
CLINICAL INFORMATIC ROLE	Mean		3.35400	.023928
	95% Confidence Interval for Mean	Lower Bound	3.30652	
		Upper Bound	3.40148	
	5% Trimmed Mean		3.34667	
	Median		3.40000	
	Variance		.057	
	Std. Deviation		.239283	
	Minimum		2.600	
	Maximum		4.000	
	Range		1.400	
	Interquartile Range		.200	
	Skewness		.457	.241
	Kurtosis		2.457	.478
BASIC COMPUTER SKILLS	Mean		3.06933333333 3334	.020254719143 621
	95% Confidence Interval for Mean	Lower Bound	3.02914357625 8948	
		Upper Bound	3.10952309040 7721	
	5% Trimmed Mean		3.06888888888 8889	
	Median		3.06666666666 6667	
	Variance		.041	
	Std. Deviation		.202547191436 213	
	Minimum		2.40000000000	

			0000	
	Maximum		3.93333333333 3333	
	Range		1.53333333333 3333	
	Interquartile Range		.266666666666 667	
	Skewness		.475	.241
	Kurtosis		3.958	.478
ATTITUDE	Mean		3.06500	.026973
	95% Confidence Interval for Mean	Lower Bound	3.01148	
		Upper Bound	3.11852	
	5% Trimmed Mean		3.04167	
	Median		3.00000	
	Variance		.073	
	Std. Deviation		.269727	
	Minimum		2.750	
	Maximum		4.000	
	Range		1.250	
	Interquartile Range		.250	
	Skewness		1.283	.241
	Kurtosis		2.579	.478
APPLICATION	Mean		3.21750	.021805
	95% Confidence Interval for Mean	Lower Bound	3.17423	
		Upper Bound	3.26077	
	5% Trimmed Mean		3.21667	
	Median		3.25000	
	Variance		.048	
	Std. Deviation		.218046	
	Minimum		2.500	
	Maximum		4.000	
	Range		1.500	
	Interquartile Range		.000	
	Skewness		.071	.241
	Kurtosis		2.688	.478
WIRELESS	Mean		3.77500	.029623
	95% Confidence Interval for Mean	Lower Bound	3.71622	
		Upper Bound	3.83378	
	5% Trimmed Mean		3.80000	
	Median		4.00000	
	Variance		.088	
	Std. Deviation		.296231	
	Minimum		2.500	

	Maximum		4.000	
	Range		1.500	
	Interquartile Range		.500	
	Skewness		-1.238	.241
	Kurtosis		2.109	.478
NIC	Mean		3.296166666666667	.012664750430989
	95% Confidence Interval for Mean	Lower Bound	3.271037054173893	
		Upper Bound	3.321296279159441	
	5% Trimmed Mean		3.288814814814814	
	Median		3.298333333333333	
	Variance		.016	
	Std. Deviation		.126647504309890	
	Minimum		2.946666666666667	
	Maximum		3.840000000000000	
	Range		.893333333333333	
	Interquartile Range		.128333333333333	
	Skewness		1.555	.241
	Kurtosis		6.902	.478
EDP	Mean		2.76125	.006179
	95% Confidence Interval for Mean	Lower Bound	2.74899	
		Upper Bound	2.77351	
	5% Trimmed Mean		2.75417	
	Median		2.75000	
	Variance		.004	
	Std. Deviation		.061789	
	Minimum		2.500	
	Maximum		3.000	
	Range		.500	
	Interquartile Range		.000	
	Skewness		1.741	.241
	Kurtosis		10.654	.478

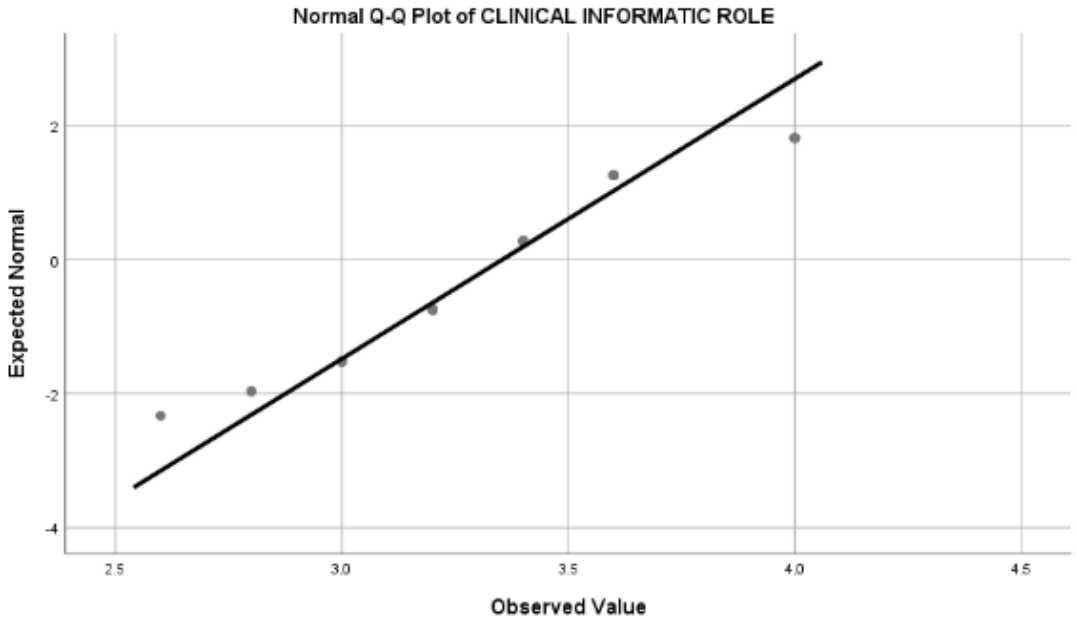
Tests of Normality		
	Kolmogorov-Smirnov[a]	Shapiro-Wilk

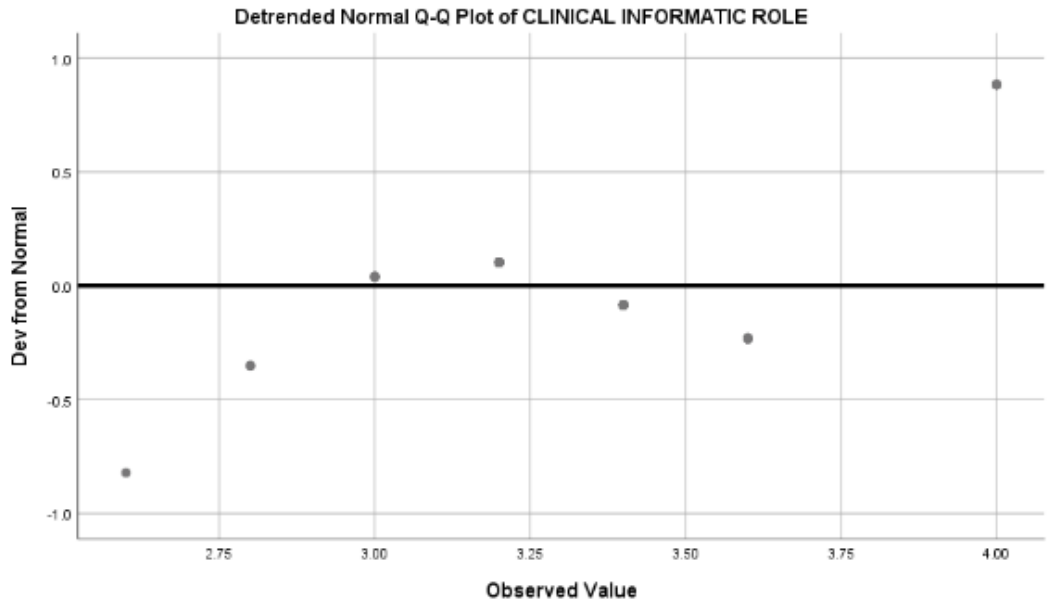
Tests of Normality

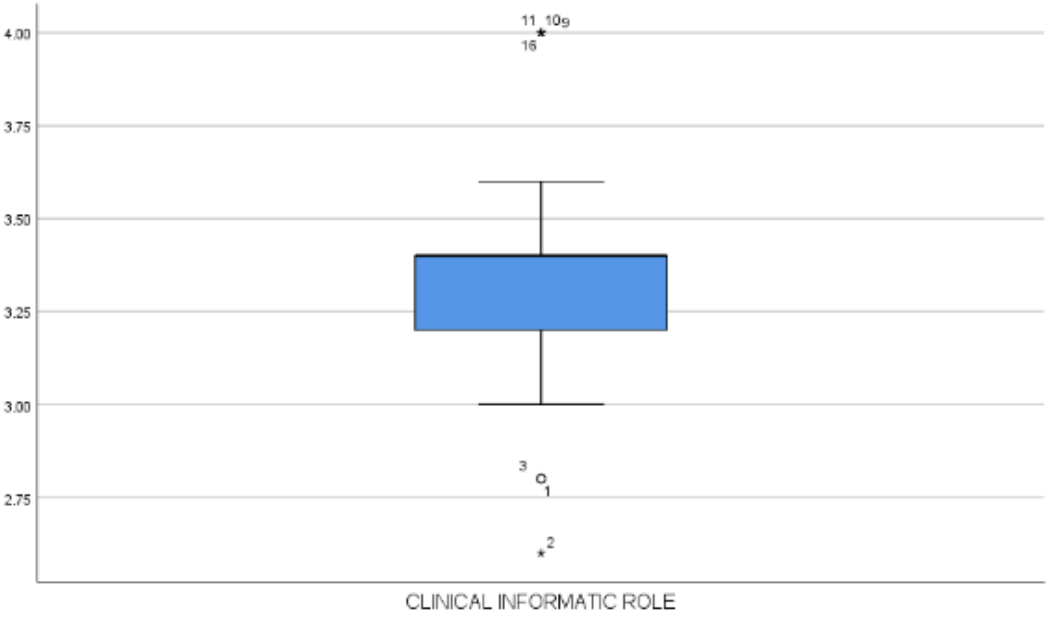
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CLINICAL INFORMATIC ROLE	.284	100	.000	.844	100	.000
BASIC COMPUTER SKILLS	.135	100	.000	.909	100	.000
ATTITUDE	.265	100	.000	.830	100	.000
APPLICATION	.319	100	.000	.814	100	.000
WIRELESS	.366	100	.000	.675	100	.000
NIC	.186	100	.000	.839	100	.000
EDP	.492	100	.000	.401	100	.000

a. Lilliefors Significance Correction

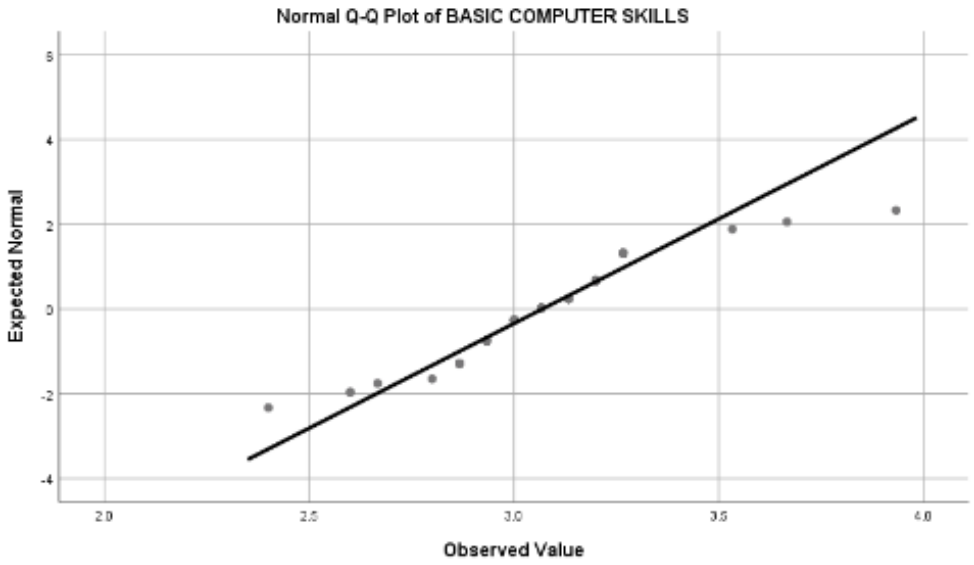
CLINICAL INFORMATIC ROLE

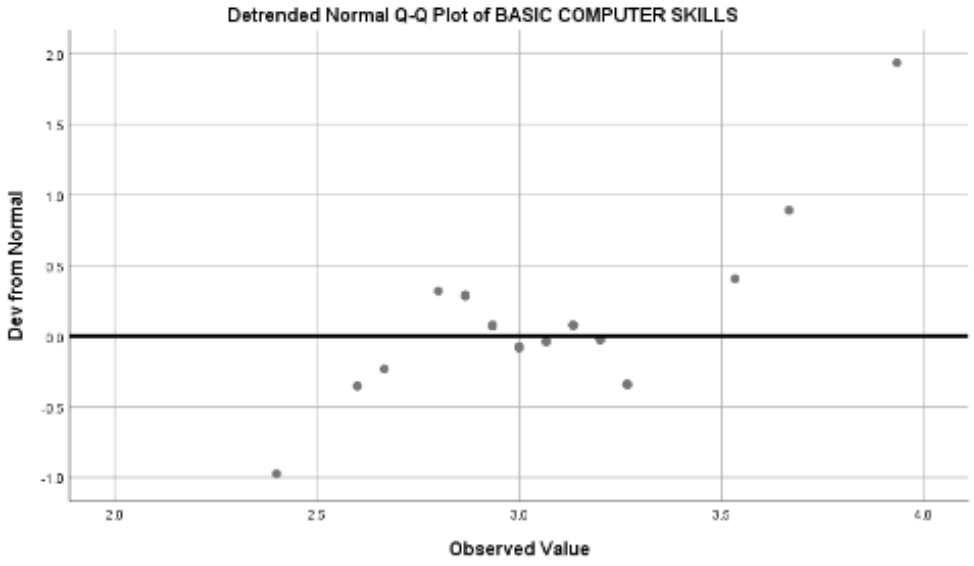


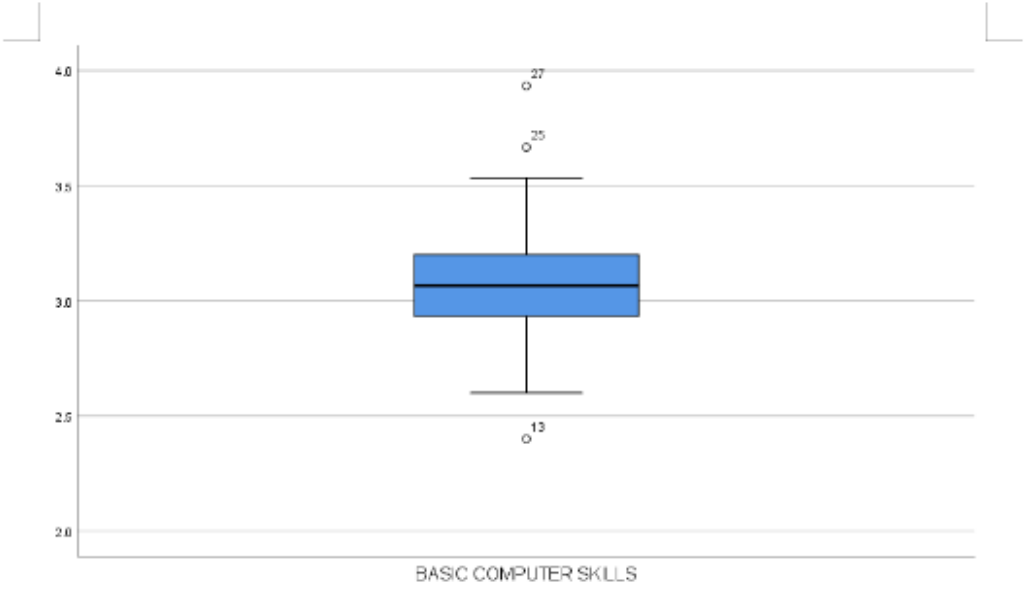

Detrended Normal Q-Q Plot of CLINICAL INFORMATIC ROLE
Dev from Normal
1.0
0.5
0.0
-0.5
-1.0
2.75
3.00
3.25
3.50
3.75
4.00
Observed Value


4.00
3.75
3.50
3.25
3.00
2.75
11
10
9
16
3
1
2
CLINICAL INFORMATIC ROLE

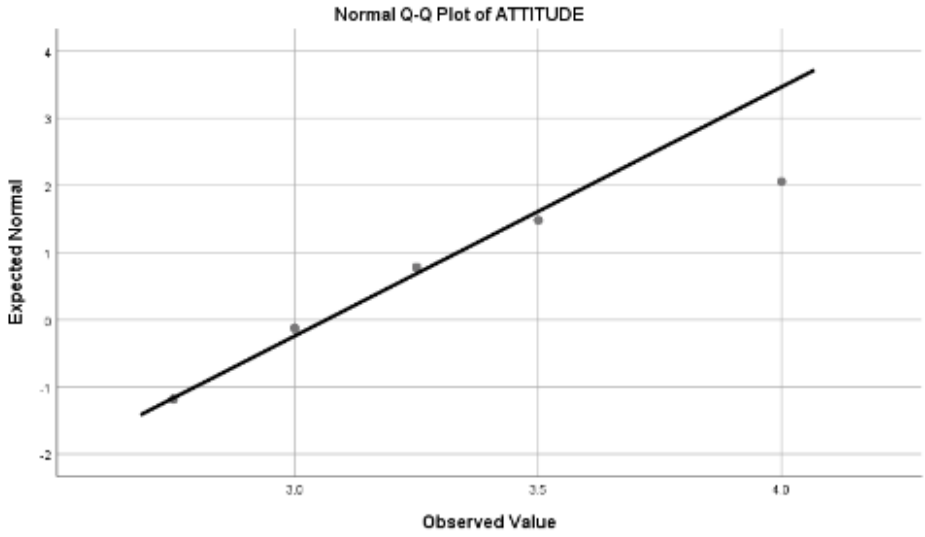
BASIC COMPUTER SKILLS

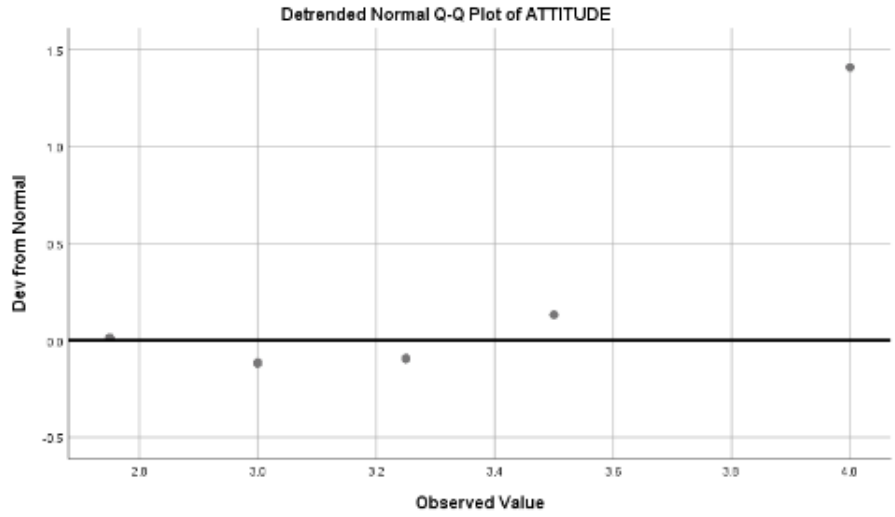


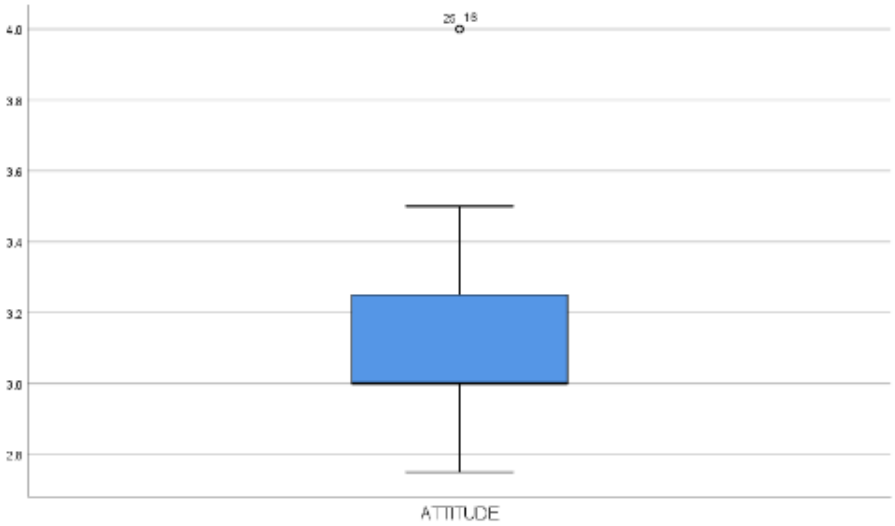



4.0
3.5
3.0
2.5
2.0
27
25
13
BASIC COMPUTER SKILLS

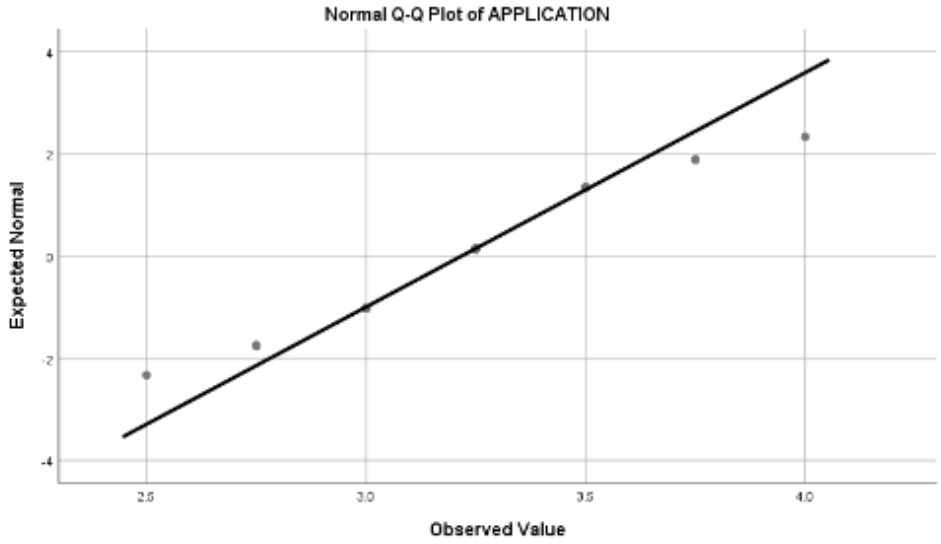
ATTITUDE

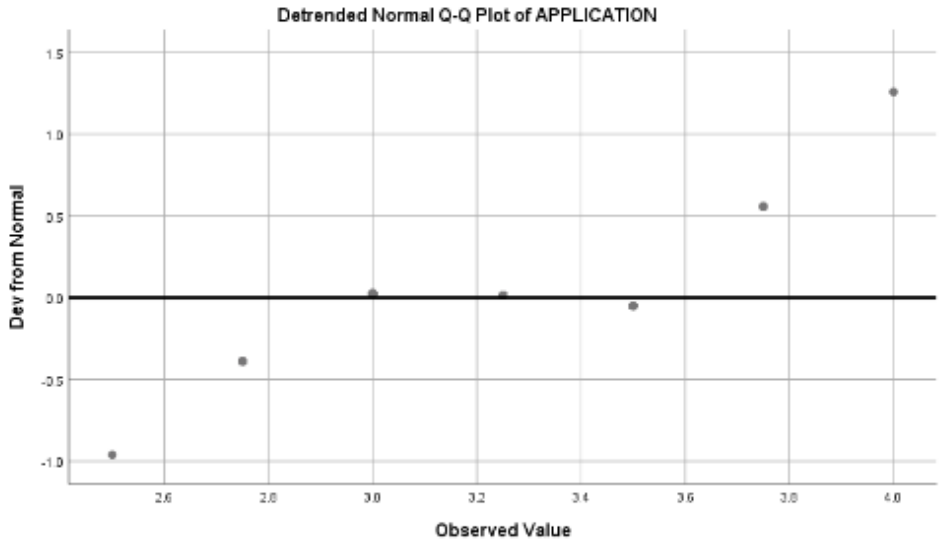

Normal Q-Q Plot of ATTITUDE
Expected Normal
Observed Value
4
3
2
1
0
-1
-2
3.0
3.5
4.0

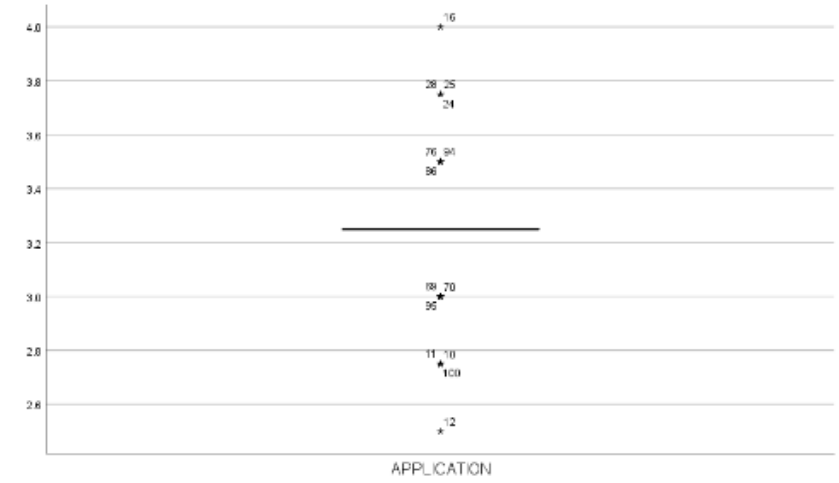

Detrended Normal Q-Q Plot of ATTITUDE
Dev from Normal
1.5
1.0
0.5
0.0
-0.5
2.8
3.0
3.2
3.4
3.6
3.8
4.0
Observed Value


25 18
4.0
3.8
3.6
3.4
3.2
3.0
2.8
ATTITUDE

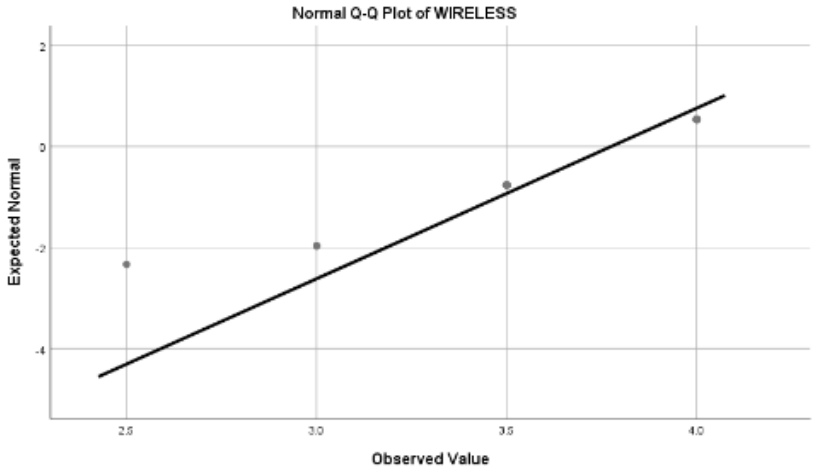
APPLICATION

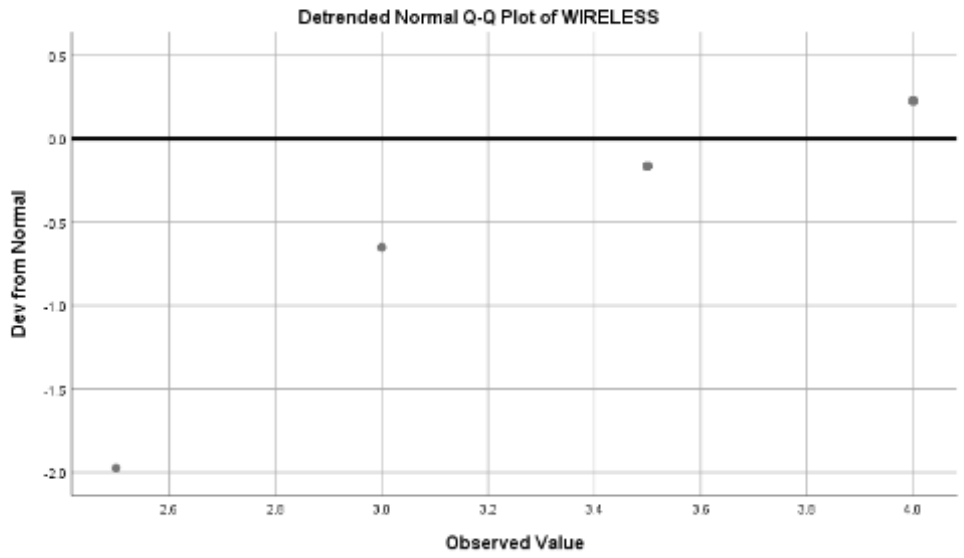


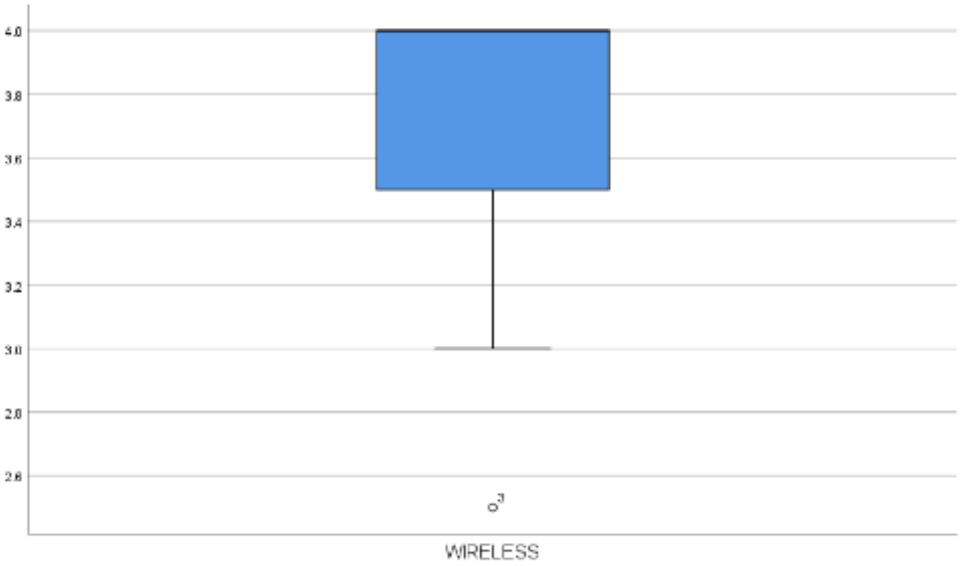



APPLICATION

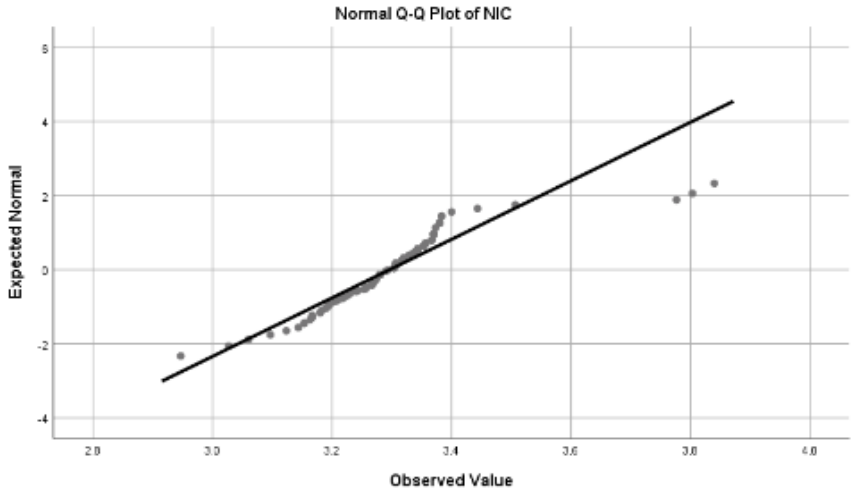
WIRELESS

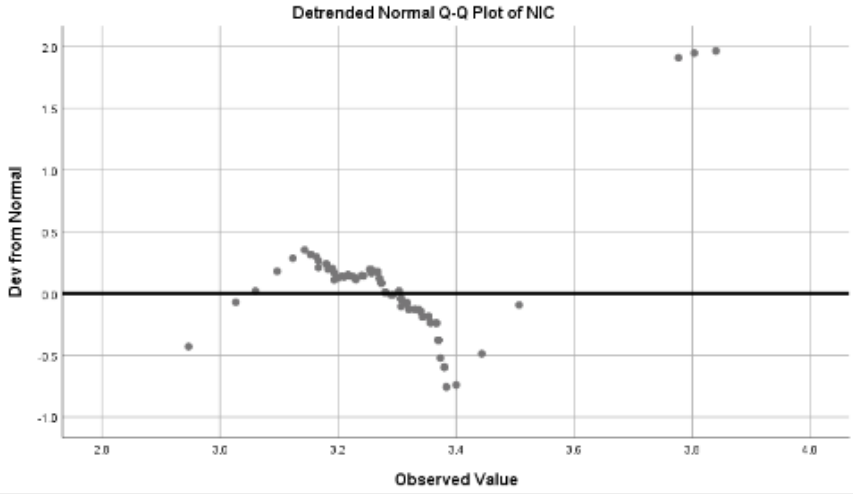

Normal Q-Q Plot of WIRELESS
Expected Normal
Observed Value

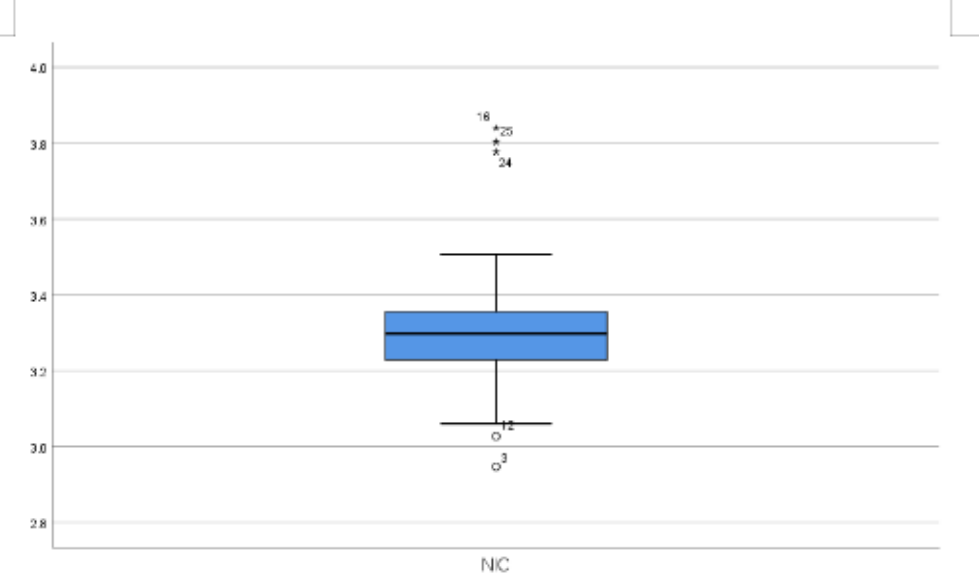

Detrended Normal Q-Q Plot of WIRELESS
Dev from Normal
0.5
0.0
-0.5
-1.0
-1.5
-2.0
2.6
2.8
3.0
3.2
3.4
3.6
3.8
4.0
Observed Value


4.0
3.8
3.6
3.4
3.2
3.0
2.8
WIRELESS

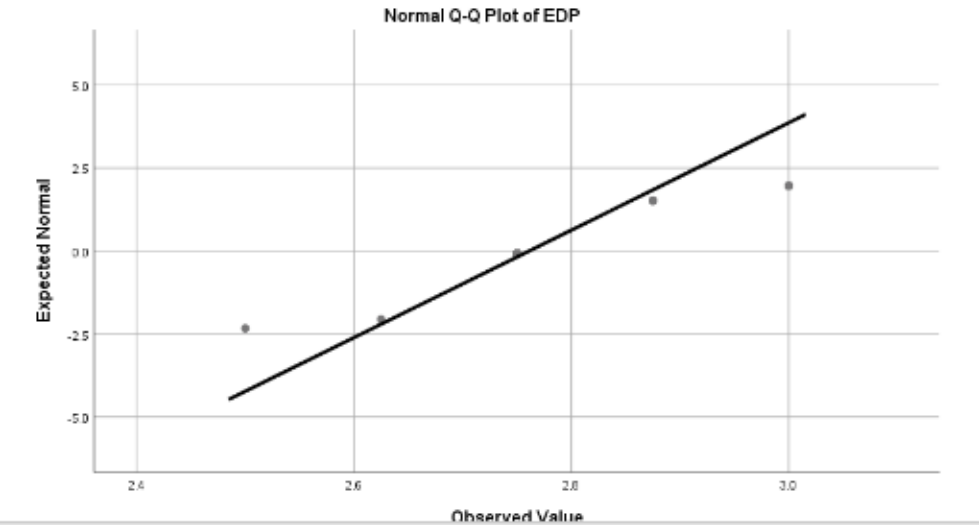
NIC


Normal Q-Q Plot of NIC
Expected Normal
Observed Value
6
4
2
0
-2
-4
2.8
3.0
3.2
3.4
3.6
3.8
4.0


Detrended Normal Q-Q Plot of NIC
Dev from Normal
Observed Value
2.0
1.5
1.0
0.5
0.0
-0.5
-1.0
2.8
3.0
3.2
3.4
3.6
3.8
4.0


4.0
3.8
3.6
3.4
3.2
3.0
2.8
18
25
24
12
3
NIC

EDP


Normal Q-Q Plot of EDP
Expected Normal
5.0
2.5
0.0
-2.5
-5.0
2.4
2.6
2.8
3.0
Observed Value

SOP2 AND 3:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM1	100	3	4	3.93	.256
ITEM2	100	3	4	3.86	.349
ITEM3	100	3	4	3.66	.476
ITEM4	100	2	4	3.71	.498
ITEM5	100	1	4	1.61	.973
CLINICAL INFORMATIC ROLE	100	2.600	4.000	3.35400	.239283
ITEM1	100	2	4	2.27	.510
ITEM2	100	2	4	2.22	.462
ITEM3	100	1	4	2.22	.561
ITEM4	100	2	4	3.08	.442
ITEM5	100	3	4	3.48	.502
ITEM6	100	3	4	3.50	.503
ITEM7	100	2	4	3.16	.443
ITEM8	100	2	4	3.50	.541
ITEM9	100	2	4	3.24	.495
ITEM10	100	2	4	3.36	.689
ITEM11	100	2	4	3.21	.591
ITEM12	100	2	4	3.34	.497
ITEM13	100	2	4	2.98	.449
ITEM14	100	2	4	3.09	.552
ITEM15	100	2	4	3.39	.530
BASIC COMPUTER SKILLS	100	2.400000000000	3.933333333333	3.069333333334	.202547191436214
ITEM1	100	2	4	3.26	.463
ITEM2	100	2	4	3.03	.413
ITEM3	100	2	4	2.95	.626
ITEM4	100	2	4	3.02	.449
ATTITUDE	100	2.750	4.000	3.06500	.269727
ITEM1	100	2	4	3.23	.446
ITEM2	100	2	4	3.03	.361
ITEM3	100	2	4	3.02	.348
ITEM4	100	2	4	3.59	.621
APPLICATION	100	2.500	4.000	3.21750	.218046
ITEM29	100	3	4	3.65	.479
ITEM30	100	2	4	3.90	.333
WIRELESS	100	2.500	4.000	3.77500	.296231

NIC	100	2.94666666666 6667	3.84000000000 0000	3.29616666666 6666	.126647504309 890
ITEM1	100	3	3	3.00	.000
ITEM2	100	2	3	2.98	.141
ITEM3	100	1	3	2.05	.261
ITEM4	100	1	3	2.07	.293
ITEM5	100	3	3	3.00	.000
ITEM6	100	3	3	3.00	.000
ITEM7	100	3	3	3.00	.000
ITEM8	100	2	3	2.99	.100
EDP	100	2.500	3.000	2.76125	.061789
Valid N (listwise)	100				

SOP4:

Nonparametric Correlations

Correlations

			NIC	EDP
Spearman's rho	CLINICAL INFORMATIC ROLE	Correlation Coefficient	.359**	.209*
		Sig. (2-tailed)	.000	.037
		N	100	100
	BASIC COMPUTER SKILLS	Correlation Coefficient	.335**	.258**
		Sig. (2-tailed)	.001	.010
		N	100	100
	ATTITUDE	Correlation Coefficient	.262**	.220*
		Sig. (2-tailed)	.009	.028
		N	100	100
	APPLICATION	Correlation Coefficient	.411**	.012
		Sig. (2-tailed)	.000	.903
		N	100	100
	WIRELESS	Correlation Coefficient	.655**	.059
		Sig. (2-tailed)	.000	.558
		N	100	100
	NIC	Correlation Coefficient	1.000	.234*
		Sig. (2-tailed)	.	.019
		N	100	100
	EDP	Correlation Coefficient	.234*	1.000
		Sig. (2-tailed)	.019	.
		N	100	100

APPENDIX H

STATISTICIAN CERTIFICATE

Davao Doctors College, Inc.
General Malvar St., Davao City

CERTIFICATION FROM THE STATISTICIAN

This is to certify that the undersigned has been consulted in the statistical test for the thesis entitled, **"NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES"**, of Ms.Fatimah S. Sarento, RN, of the Master of Arts in Nursing of Davao Doctors College, Inc.

Attached to this certificate is the summary of results and the evidences needed to claim the results.



CHRISTIAN GALOLO, MAED
Statistician

Date Signed: **October 5, 2026**

APPENDIX I
COMPREHENSIVE STAT RESULT

Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ITEM1	100	3	3	3.00	.000
ITEM2	100	2	3	2.98	.141
ITEM3	100	1	3	2.15	.386
ITEM4	100	1	3	2.07	.293
ITEM5	100	3	3	3.00	.000
ITEM6	100	3	3	3.00	.000
ITEM7	100	2	3	2.42	.496
ITEM8	100	2	3	2.44	.499
EDP	100	2.375	3.000	2.63250	.125403
Valid N (listwise)	100				

Nonparametric Correlations

			EDP
Spearman's rho	CLINICAL INFORMATIC ROLE	Correlation Coefficient	.157
		Sig. (2-tailed)	.118
		N	100
	BASIC COMPUTER SKILLS	Correlation Coefficient	.250**
		Sig. (2-tailed)	.012
		N	100
	ATTITUDE	Correlation Coefficient	.020
		Sig. (2-tailed)	.844
		N	100
	APPLICATION	Correlation Coefficient	-.128
		Sig. (2-tailed)	.206
		N	100
	WIRELESS	Correlation Coefficient	.022
		Sig. (2-tailed)	.831
		N	100
	NIC	Correlation Coefficient	.106
		Sig. (2-tailed)	.295
		N	100
	EDP	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	100

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

CLINICALIN~E	.1365867	.153074
BASICCOMPU~S	.1192679	.1336646
ATTITUDE	.1629009	.1825647
APPLICATION	.1343193	.150533
WIRELESS	.2309395	.2588162

Local-linear regression — Number of obs = 83
Kernel : epanechnikov — E(Kernel obs) = 0
Bandwidth: cross-validation — R-squared = 0.5714

	Observed estimate	Bootstrap std. err.	z	P>|z|	Percentile [95% conf.	interval]
Mean						
EDP	2.632191	.0132919	198.03	0.000	2.602937	2.656544
Effect						
CLINICALINFORMATICROLE	.1944329	.1520374	1.28	0.201	-.153141	.4399105
BASICCOMPUTERSKILLS	.2974422	.1158879	2.57	0.010	.0765327	.5307547
ATTITUDE	.0832979	.0944873	0.88	0.378	-.0804017	.2449411
APPLICATION	-.0569997	.1376483	-0.41	0.679	-.2536872	.2696008
WIRELESS	.0229987	.0612599	0.38	0.707	-.0718008	.1606825

Note: Effect estimates are averages of derivatives.

Bandwidth

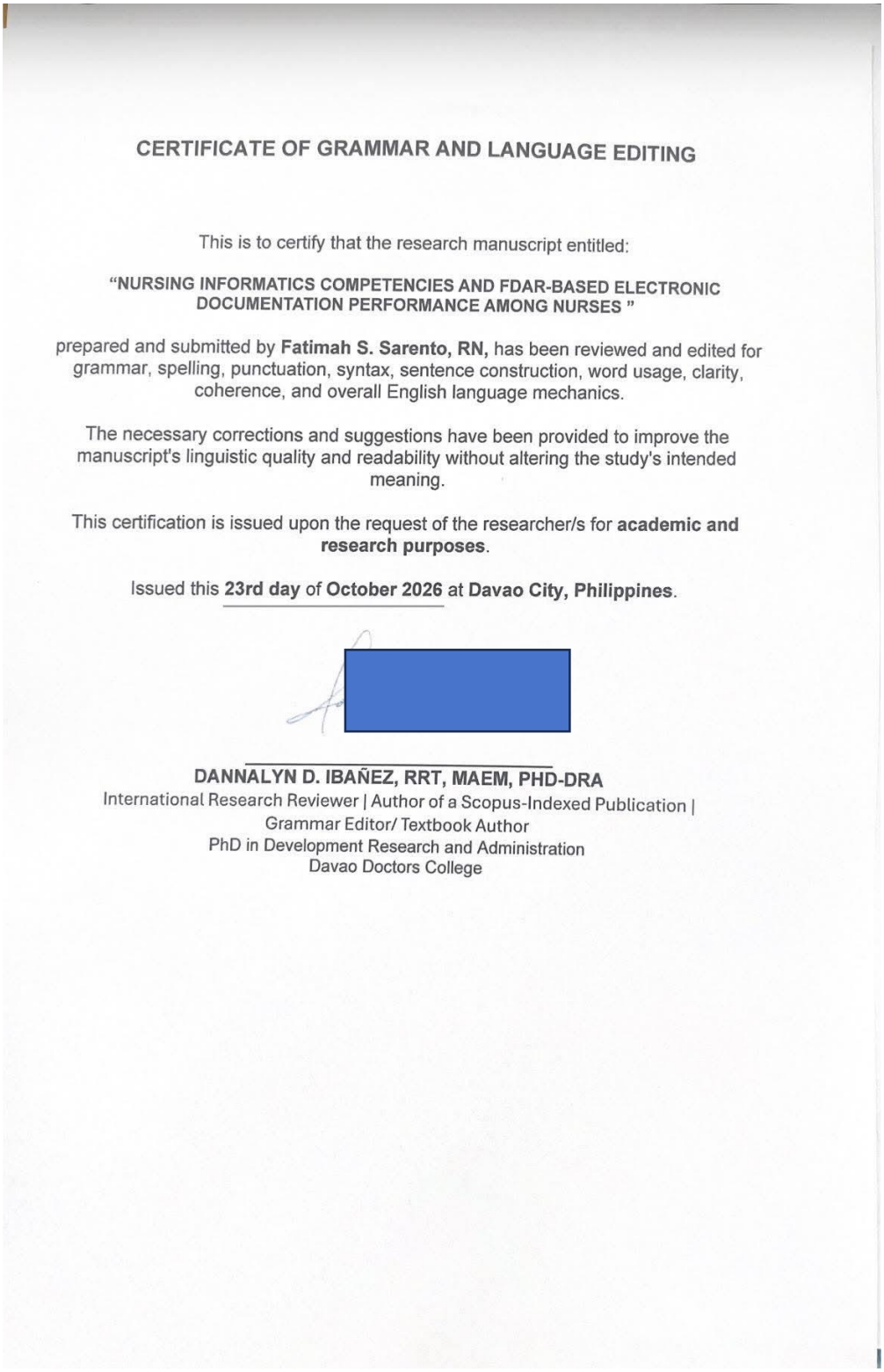
	Mean	Effect
NIC	.3066693	.2867701

Local-linear regression — Number of obs = 100
Kernel : epanechnikov — E(Kernel obs) = 31
Bandwidth: cross-validation — R-squared = 0.1300

	Observed estimate	Bootstrap std. err.	z	P>|z|	Percentile [95% conf.	interval]
Mean						
EDP	2.638458	.0121363	217.40	0.000	2.618664	2.663363
Effect						
NIC	.1470204	.1386499	1.06	0.289	-.058216	.4385543

Note: Effect estimates are averages of derivatives.

APPENDIX J
GRAMMARIAN CERTIFICATE



CERTIFICATE OF GRAMMAR AND LANGUAGE EDITING

This is to certify that the research manuscript entitled:

"NURSING INFORMATICS COMPETENCIES AND FDAR-BASED ELECTRONIC DOCUMENTATION PERFORMANCE AMONG NURSES "

prepared and submitted by **Fatimah S. Sarento, RN,** has been reviewed and edited for grammar, spelling, punctuation, syntax, sentence construction, word usage, clarity, coherence, and overall English language mechanics.

The necessary corrections and suggestions have been provided to improve the manuscript's linguistic quality and readability without altering the study's intended meaning.

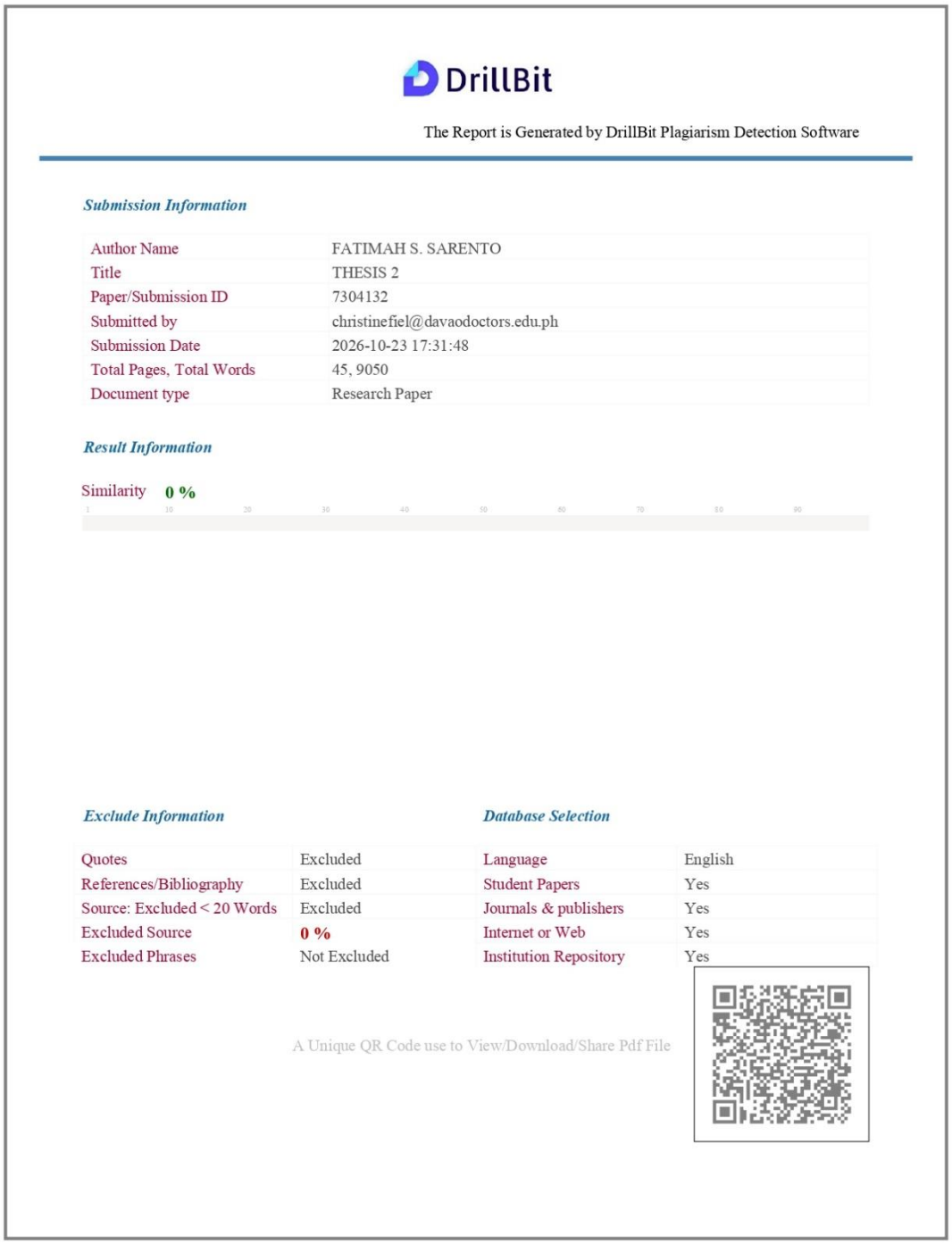
This certification is issued upon the request of the researcher/s for **academic and research purposes**.

Issued this **23rd day** of **October 2026** at **Davao City, Philippines**.

[redacted]

DANNALYN D. IBAÑEZ, RRT, MAEM, PHD-DRA
International Research Reviewer | Author of a Scopus-Indexed Publication |
Grammar Editor/ Textbook Author
PhD in Development Research and Administration
Davao Doctors College

APPENDIX K
PLAGIARISM CERTIFICATE



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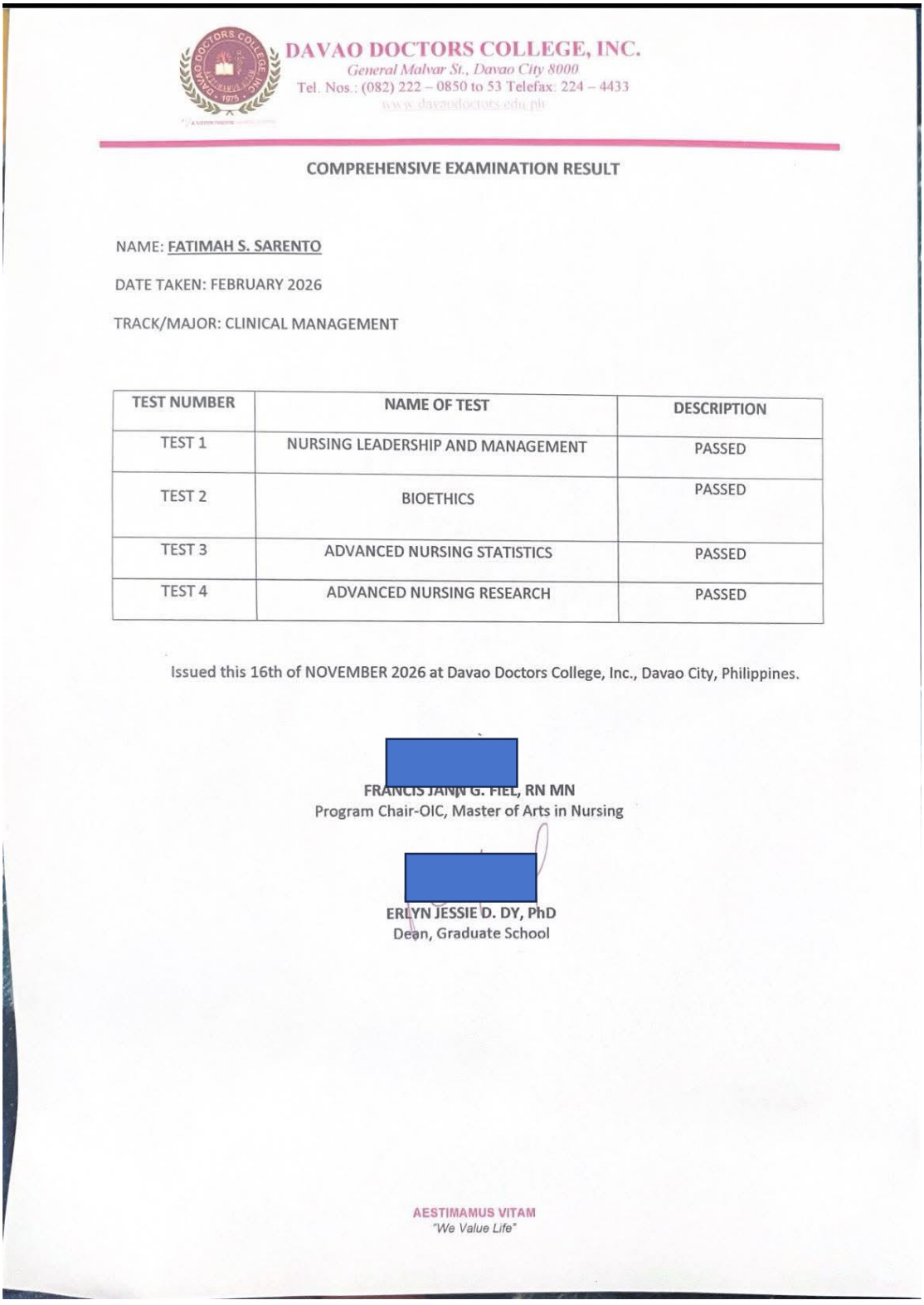
APPENDIX L
COMPREHENSIVE EXAM RESULT



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COMPREHENSIVE EXAMINATION RESULT

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DATE TAKEN: FEBRUARY 2026

TRACK/MAJOR: CLINICAL MANAGEMENT

TEST NUMBER	NAME OF TEST	DESCRIPTION
TEST 1	NURSING LEADERSHIP AND MANAGEMENT	PASSED
TEST 2	BIOETHICS	PASSED
TEST 3	ADVANCED NURSING STATISTICS	PASSED
TEST 4	ADVANCED NURSING RESEARCH	PASSED

Issued this 16th of NOVEMBER 2026 at Davao Doctors College, Inc., Davao City, Philippines.

[redacted]
FRANCIS JANN G. FIEL, RN MN
Program Chair-OIC, Master of Arts in Nursing

[redacted]
ERLYN JESSIE D. DY, PhD
Dean, Graduate School

AESTIMAMUS VITAM
"We Value Life"

APPENDIX M
CURRICULUM VITAE



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Cotabato City
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Eligibility

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