



Exploring the Nexus of Nursing Competency Development: Insights from Input-Process-Output Dynamics in Education

Glenda P. De Vera *

Faculty, College of Nursing, Xavier University, Cagayan de Oro City, Philippines

Abstract—This study examines the nursing competency considering the input process-output involve in the academic setting. It explains how the output variable is impacted by the input and process variables. Utilizing the input variables of the study includes facilities and faculty. The curriculum design are process variables. The output variable is the core competencies expected from the nursing students. Important clinical competencies were considered: safe and quality nursing care, collaboration and teamwork, and ethico-legal responsibility. It has been established from this study that the General Systems Theory considering input-process-output explains how the variable affects the other. The study reveals that the input does not affect the output however the process variable affects the output. The outcome-based education significantly affects core competency. The use of an outcome-based education as the process and approach in the implementation of the curriculum helps in the attainment of nursing core competency. As the nursing program utilizes the competency approach, it highlights the learner performance and achievement of its outcome. It enables them to perform nursing skills competently thus aiding in positive patient health outcome.

Index Terms— core competency, input-process-output, nursing.

1. Introduction

Nursing competency is a complex integration of knowledge, including professional judgment, skills, values, and attitude. Considering nursing practice, nurses must possess the knowledge, skills, and inherent individual traits to each situation and fit this knowledge and skills to various situations (Fukada, 2018). Quality education is the foundation for developing competent health professionals to deliver safe, quality care. Patient safety is promoted by competence. Education and training serve as the foundation for nurses' knowledge and competence. The academic setting serves as the avenue for beginning skills competency.

Nurses are the significant global health workforce. Their role is to deliver primary care and treatment to patients, educate the patient and public about the importance of health in the community, and participate in controlling diseases and infections ((Z. C. Chan et al., 2019)

The academe helps in the transition in educating nurses in the 21st century. The institution has to respond to significant

challenges accompanied by the increasing demands in global health care. The current curriculum seeks to develop professional nurses who can assume entry-level positions in either health care facilities or community settings. The preparation of future nurses remains a significant concern as nurse graduates must adequately be equipped with competencies to meet the demands of the workplace and profession (Tan et al. 2018). The curriculum is crucial in determining objectives, educational content, and values.

The unpreparedness of novice nurses during the transition to their professional role has broad consequences for the nurse and health care system, leading to reduced patient care quality. The development of competencies among professional nurses can be facilitated while they are still students. The Outcome-Based Education emphasize students' demonstration of learning outcomes. With the current development of the curriculum, there is a need to align educational processes and systems to the expected results that students should be able to proficiently exhibit at the end of the curriculum. The outcome should be an authentic demonstration of expected competencies of significant learning experiences rather than grades or simply curricular completion (Jonathan, 2017).

The academic institution adhered to the policies and standards provided by the Commission on Higher Education. The College of Nursing from this institution had continuously produced quality graduates, as evidenced in the higher percentage of passers in the board examination. With the changes and development in curriculum implementation and the challenges of new normal, the researcher deemed it necessary to assess the input and processes involved in implementing the curriculum. Assessment of students' competence according to clear professional standards is core in ensuring that students deliver safe nursing care. It is therefore imperative to examine how institutional processes help in shaping student nurses to become globally competent.

This study is anchored on the General System Theory by Von Bertalanffy. Bertalanffy (1956) defines a system as a complex of interacting elements. It fosters systems thinking in all discipline to find general principles valid to all systems. It introduces "system" as a new scientific paradigm contrasting

*Corresponding author: gdevera@xu.edu.ph

the analytical, mechanical paradigm characterizing classical science.

A fundamental notion of general systems theory is the distinction between open, closed, and isolated systems. There are energy, matter, people, and information exchanges in available systems with the external environment. Open system theory looks at the relationship between the organizations and the environment in which they are involved. This focus reflects on the organizations' ability to adapt to changes in environmental conditions the open system concept is applied to the organization. The organization is seen as a system created by energetic input-output where the energy comes in this theory; inputs encompass the material, human, financial, or information resources required to produce goods and services of varying quantities and qualities (Mele et al., 2010).

The transformation process involves management's application of production technology to change the inputs into outputs. The outputs are the tangible products and services of the organization with a market value or user utility.

In an academic institution, the organization must be able to adapt to the systems process. The use of input, process, and output must be relevant to determine the objectives, contents, methods, and assessment. This study considers the need for alignment of the critical elements of the curriculum and how these can be applied as input, process, and output to come up with the system approach in education.

Input: The inputs are the objectives, and objectified contents teachers put in (Salam, 2015). It includes activities described as inputs and resources. For schools, infrastructure such as classrooms, furniture, audio-visual aids, laboratories and libraries are the physical facilities considered essential in the learning process (Patil & Kalekar, 2015). The school is designed to focus on various developmental aspects of the learner. Hence, the social, emotional, and physical inputs must be prioritized (Patil & Kalekar, 2015). Implementation is a crucial phase in which the information is utilized appropriately to achieve the desired product.

The input covered in this study are the facility and faculty. For the faculty clinical experience and teaching experience are considered. Nursing students are evaluated in clinical learning environments where skills and knowledge are applied to patient care. This environment affects the achievement of learning outcomes and impacts preparation for practice and student satisfaction with the nursing profession.

For facility, the skill laboratories are a well-established learning environment for all levels of nursing students. It will be used to simulate the scenario in the hospital to support and facilitate psychomotor learning. It is the hands-on experience in this laboratory that nursing students use to develop their competencies in multiple simulated health care settings across the human life span. The simulation laboratory is an intricate part of student learning.

A broad curriculum model allows various views of nursing practice to be expressed by faculty while maintaining and reinforcing common values regarding the discipline. Quality education relies largely on well-trained and competent faculty members. The expertise of faculty in various specialties is

demonstrated in specific courses. Educators need the practice to integrate theory into practice through synchronization of theoretical themes with the practice courses and evidence-based educational strategies. This is to effectively equip nursing students with the competencies demanded in the 21st century's healthcare environment. Faculty members who are experts in nursing education have the knowledge base to function in an advanced practice role as needed (Fawaz et al. 2018). The teacher's ability to perform is also crucial (Schneider, 2002). The continued use of clinical facilitators should be supported, and adequate resources should be provided for sustained development and career prospects (Jayasekara et al., 2018).

Process: The processes are the methods of delivery of objectified contents involved in the teaching-learning output (Salam, 2001). Typically, it involves activities as organizing student activities, workshops as well as preparing students for competitive and public examinations. The school should be able to deliver its approach systematically (Patil & Kalekar, 2015). The processes as described in this study include the curricular design, which covers the outcome-based, community-based, and research-based approaches.

Outcome-Based Education (OBE) is a student-centered approach to curriculum design and teaching that emphasizes what learners should know, understand, demonstrate, and adapt to life beyond formal education (Tan et al. 2018). The most basic premise of Outcome Based Education (OBE) states that all students are capable of learning, and they can achieve high levels of competency when teachers delineate their expectations wholly. It starts with a clear picture of what is necessary for students to be able to perform. The educational system organizes curriculum, instruction, and assessment, ensuring that learning is facilitated (Spady, 1994). It is conducive to enhance student core competencies in terms of critical and creative thinking, social and national responsibility, lifelong learning, and leadership which are inherent in the nursing curriculum (Chan & Chan, 2009). Outcome-Based Education approaches in Nursing Education positively affect students' competencies in knowledge acquisition, skills performance, behavior, and attitude (Crespo et al., 2010, Tan et al., 2018). It contributes to higher learning satisfaction and achieving higher-order thinking processes. It improves skills performance with evidence of achieving higher final grades in clinical practicum and self-evaluated core competency ability (Fan et al., 2015);

higher performance in health information collection, physical assessment, scenario simulation, and communication skills and higher scores in clinical skills in intensive care nursing and an improvement in communication skills (Wu et al., 2014)). In this study, outcome-based education is not used as the main framework of the study. Instead, it is considered a curricular process for achieving nursing students' competency. The nursing outcomes are constantly measured in terms of competency.

The community-based approach in nursing has been utilized to reflect the current shift in health care delivery from hospital to community settings. Community Health Nursing is recognized as an essential aspect of preparing baccalaureate graduate. A competency-based approach allows more students

into community health areas. Exposure to the community area will enable them to engage in health interventions that develop health promotion and disease prevention. It improves nursing students' perception of leadership, communication, teamwork, and critical thinking skills. The learning experience challenges students' thinking about vulnerable populations and enhances understanding of the barriers to accessing healthcare. It enables student to become more self-directed, develop team processes skill and adopt a role outside traditional acute care (Babenko-Mould et al., 2016).

Nursing research tremendously influences current and future professional nursing practice, thus rendering it an essential component of the educational process. Integrating analysis is critical to the nursing profession and is necessary for continuing advancement that promotes optimal nursing care. Training nursing students will develop their competency in addressing this concern. Nursing research contributes to the body of nursing knowledge. It enhances nursing care by identifying problems worthy of research, collects data for nursing studies, and apply research findings in their care. As student nurses develop this competency, it helps them in improving patient outcomes as evidence-based practices and teaching research-related content strengthening nursing care outcomes (McEnroe Ayers & Coeling, 2005)

Output: Outputs are the ending product of educational inputs and processes that must be assessed based on objectives (Salam, 2001). Proper implementation of the system approach enables the academic managers to improve the standards of education, quality, and excellence of performance in the academe. It includes determining the practice and general outcome of the school. The best measurable product provides knowledge, skills, values, and attitudes gained by the students (Patil & Kalekar, 2015).

The output of this study will describe the core competency that students can develop before graduation. It includes the following: Safe and Quality Nursing Care, Teamwork and Collaboration, Ethical-Legal Responsibility.

Safe and Quality Nursing Care: Patient safety is one of the utmost priorities in the client's care. It prevents harm and jeopardizing patient. Quality is an abstract form however nursing high-quality care is equated with cognitive, affective, and psychomotor competence. The presence of professional environment is correlated with high-quality nursing care. Nurses will evaluate quality care focusing on assessment, planning, or the effectiveness and skill in which treatments and medications are delivered (Burhans & Alligood, 2010). The use of the nursing process is the guide nurses' use. It is a systematic guide to client-centered care.

Collaboration and Teamwork: Collaboration between nurses and interprofessional team supports improved care delivery outcomes. The partnership extends beyond communication, teamwork, and respect. The interprofessional process happens when nurses come together and form a team to render patient care. It is advantageous on healthcare system problem with members of the team respectfully sharing knowledge and resources (Emich, 2018).

The nursing profession requires ethical and legal regulations

to guide nurses' performance. Research from Aly et al. (2020) describes the moral climate that plays part in shaping nurses' ethical practice. Enhancing nurses' knowledge of ethical and legal aspects and ethical environment could significantly influence nurses' ethical practice and competencies.

Thus, this study is guided by the following problem statement:

1. What ratings are given by the respondents on the following provisions made available by the College of Nursing as to?
 - 1.1 Input
 - 1.1.1. Facilities
 - 1.1.2. Faculty
2. What ratings are given by the respondents on the following:
 - 2.1 Curricular Design Process
 - 2.2.1. Outcome-Based Education
 - 2.2.2. Community-Based Approach
 - 2.2.3. Research-Based Approach
3. What is the respondents' performance in terms of the following core competencies?
 - 3.1 Core Competency
 - 3.1.1. Safe and Quality Care
 - 3.1.2. Teamwork and Collaboration
 - 3.1.3. Ethical-Legal Responsibility
4. To what extent do the inputs affect the outputs?
5. To what extent do the processes affect the outputs?

2. Methodology

This study utilized quantitative descriptive research design. According to Polit and Beck (2018), descriptive research design focus in the portrayal of the characteristics of persons, situations, or groups and the frequency with which certain phenomena occur. It attempts to discover relationships between and among variables. It involves formulating and testing hypotheses, analyzing relationships of nonmanipulated variables, and developing generalizations. This study discussed the inputs and processes used in the competency development of nursing students. A relationship was created between the input variables, the curricular design process, and the output indicators. Input, Process, and Output plays significant factor in determining students' competence. This allows the testing of hypotheses among the variables included in the study.

The respondents are nursing students in one of the Philippine universities. This university has turned out a number of registered nurses. The university has been named the nation's Top Performing Nursing School. As the term started, it registers a total of 229 enrolled junior students. Based on Cochran's formula for the sample size, 182 students were taken as respondents in the study. The study employed a stratified random sample technique to ensure that participants from each class section are represented. The respondents' class section served as the basis for the stratum. The following respondents meet the inclusion criteria for this study: (1) regular students enrolled in SY 2020–2021 as third-year students; (2) those who have experienced clinical and community exposure during their sophomore year; and (3) those who have completed an online

course in which, as a result of the pandemic, virtual RLE clinical and community rotation is simulated.

The exclusion criteria of the respondents are the following: (1) irregular students who missed one term or semester due to financial and personal reasons; (2) failed in NCM 112 subject which is one of the core subjects in Level three; (3) missed to participate in RLE virtual simulation in an online class; (4) those who failed to answer the research instrument on the specified date prescribed.

A researcher-made questionnaire was used to gather the information needed for the study. The questionnaire is made up of two parts. The first part is the faculty profile which is the input variable. The second part of the instrument covers the process variable. It includes the curricular design and delivery of instruction. The measurement for curricular design covers how the respondents were helped to attain their expected outcome expressed in the curriculum. The curricular plan will cover the said design as mandated in the current curriculum. Each curricular design describes each item to be measured, labeled and numbered appropriately. A total of ten (10) items are considered under the outcome-based education approach; seven (7) items are for the community-based approach; while seven (7) items are for research-based approach. For variables under-delivery of instruction, there are five (5) items under traditional learning numbered from 1 to 5; for online learning, five (5) items numbered from 6 to 10; and for clinical exposure items numbered 11 to 17. For the 1st and 2nd part of the questionnaire, this has been rated by the student nurses. Pilot testing was done to ensure the reliability of the research instrument utilized. For the input variables, facilities had reliability index of 0.895, faculty had 0.855. Considering the curricular design process, reliability index had 0.904.

The third part of the research instrument consists of the output variables. The Clinical Instructor uses it to rate the respondents whom they had been mentoring during their junior years. Since the College utilized a team-teaching approach and as the first batch of students for the current curriculum, the Clinical Instructors had the chance to supervise them. This study's core competencies include safe and quality nursing care, teamwork and collaboration and ethical-legal responsibility. The Clinical Instructor utilizes a separate research instrument to evaluate the student competency to address the output variable of the study. The items adapted on core competency were based on the Core Competency Standards of Nursing Practice in the Philippines. The Board of Nursing Resolution no.112 Series of 2005 adopted and promulgated the core competency. The process of revisiting the nursing core competencies includes work setting scenario analysis, benchmarking with nursing core competencies of other countries, validation studies of roles and responsibilities, integrative review of outputs from validation strategies, presentation of the validation analysis, and core competency consensual validation (prc.gov.ph). Out of the 11 core competencies that were adapted only three were used in this study. The reliability index of the following core competency are as follows: Safe and Quality Nursing Care -0.823; Teamwork and Collaboration-0.646 and Ethico-Legal

Responsibility-0.682. Descriptive and Inferential statistics was used in the study. Descriptive statistics was used for problem 1, 2 and 3 while for problem 4 and 5 Multiple Linear Regression and Pearson Moment Correlation were used in the study.

As this study involved participation of human respondents, an informed consent was asked from the respondents. Full disclosure and explanation of the study, were explained considering the nature, purposes, methodology, risks and benefits of the study. They were made to volunteer and were not coerced to participate.

3. Results and Discussion

The presentation of findings follows the order of the statement of the problems:

Problem 1: The facilities that were offered to the students were rated as *very satisfactory*. The use of the institutional facilities had helped them in their learning experience. Most of the respondent's response are almost the same in reflecting that the use of facilities had *always* helped them in developing the core competencies required from them. The rating on facilities includes the indicators on skills laboratory, classroom, library, and online services. Among the facilities, classroom set-up ranks the highest. Classroom ventilation is good, it is spacious and can accommodate large number of students with an average of 35-40 class size. As the classrooms are designed to create comfort for the learners, they offer an avenue to create a positive learning environment. School facilities play an essential role in ensuring the quality of teaching and learning. The goal of the education system is achieved through the school, which indirectly influences and shapes the human occupants' identities individually and collectively (Hasbullah et al., 2011).

Frequency and Percentage Distribution of the Respondents on Input considering Facilities

Intervals	Frequency	Percentage	Descriptor
3.25 – 4.00	113	81.88	Very Satisfactory
2.50 -3.24	22	15.94	Satisfactory
1.75 – 2.49	3	2.17	Unsatisfactory
Total	138	100.00	
Mean	3.54	Description: Very Satisfactory SD: 0.37	

Intervals	Mean	Descriptor
1. Skills Laboratory	3.51	Very Satisfactory
2. Classroom	3.76	Very Satisfactory
3. Library	3.37	Very Satisfactory
4. Online Services	3.50	Very Satisfactory

For the faculty, it was given an overall rating of very satisfactory by majority of the respondents. The rating reflects that the faculty have helped them in their learning experiences. The respondents rating considers clinical experience and teaching experience. Teaching experience comes the highest though both has been rated as very satisfactory. As a nurse clinician, a nursing faculty plays a crucial role in molding the students' competency. The role of clinical instructors in the College is considered multifunctional. They have to teach the lecture component of the nursing subject and simultaneously demonstrate procedures that are simulated in the clinical area. They actively guide students in their understanding of nursing

concepts and procedures during the completion of their clinical practice. The clinical instructors faced a challenging role during the transition to online education brought about by the pandemic. They had to explain the disease process, especially the complex and difficult one, along with the nursing procedure, considering their personal experience in the clinical area. The clinical instructors are proficient in teaching since part of the requirement as faculty stipulates that they must have a minimum experience of at least three years in the clinical area. The capacity to teach, develop of teaching strategies, and apply appropriate assessment tools significantly impact the student's performance. The faculty were given the highest rating (3.94) for teaching experience in the indicator that states the faculty provides activities that focus on individual outcomes. The students were required of a return demonstration that benefits them before the actual clinical exposure. This return demonstration will measure the student performance on nursing skills in the classroom setting or the clinical area. The major thrust for the clinical instructor is for the nursing students to consolidate clinical nursing skills and integrate theoretical and practical knowledge. The respondents acknowledge that the faculty provides activities that focus on individual outcomes which complement their ratings on the instructional design which is the outcome-based education. As the profession evolves mainly on competency development, it is but essential to check on the outcome of the students' performance. The OBE approach improves competency in knowledge acquisition in terms of higher final course grades and cognitive skills. It improves clinical skills and nursing core competencies and higher behavioral skills score while performing clinical skills (Tan et al., 2018).

Frequency and Percentage Distribution of the Respondents on Input considering Faculty

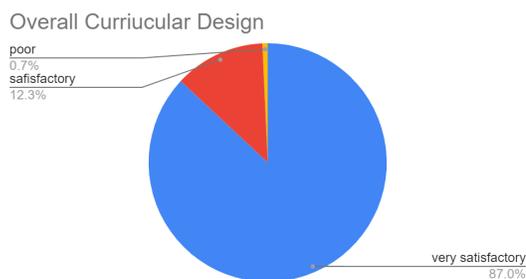
Intervals	Frequency	Percentage	Descriptor
3.25 – 4.00	119	81.88	Very Satisfactory
2.50 -3.24	19	15.94	Satisfactory
Total	138	100.00	
Mean	3.71	Description: Very Satisfactory	SD: 0.33
Intervals	Mean	Descriptor	
1. Clinical Experience	3.67	Very Satisfactory	
2. Teaching Experience	3.75	Very Satisfactory	

Problem 2: The overall curricular design process has been given a *very satisfactory* rating by the respondents. This means that this curricular design considering outcome-based education, community-based education and research approach has *always* been applied in the implementation of the curriculum. The overall curricular design standard deviation of 0.38 shows that their responses are clustered near the mean.

The four-year Bachelor of Science in Nursing Program is a community-oriented and competency-based curriculum. The National Nursing Core Competency Standards of 2012 emphasize the nurses' three (3) significant roles. One of them focuses on research that allows nurses to engage in nursing and health-related research and apply research to improve client care (ched.gov.ph). Clinical learning environments serve an

essential role in the development of students' professional competence. High-quality and relevant nursing education is needed to ensure that graduates meet an entry to practice competencies (Immonen et al., 2019). The curriculum plays a vital role of curricula in developing nurses and the nursing profession.

The curricular approach of education is basic in the plan of all actions concerning the instruction process. The critical component of curricular design considers its theoretical and methodological framework. It offers a model for the basis of implementation within the didactic approach. This will reflect the critical component element of the school curriculum and the whole education itself (Soare, 2013). Overall, the curricular design is rated as *very satisfactory* by the respondents.



Problem 2.1: The table describes the frequency and percentage distribution of the respondents on the Curricular Design considering the Outcome Based Education.

Frequency and Percentage Distribution of the Respondents on the Curricular Design considering Outcome Based Education

Intervals	Frequency	Percentage	Descriptor
3.25 – 4.00	111	80.43	Very Satisfactory
2.50 -3.24	26	18.84	Satisfactory
1.75 – 2.49	1	0.72	Poor
Total	138	100.00	
Mean	3.68	Description: Very Satisfactory	SD: 0.0.40
Intervals	Mean	Descriptor	
1. Oriented with the program outcomes, course and learning outcomes at the start of the semester.	3.82	Very Satisfactory	
2. Measurable learning objectives are provided at the start of the class.	3.74	Very Satisfactory	
3. Utilization of rubrics in measuring our learning outcomes are presented at the start of each activity.	3.68	Very Satisfactory	
4. Clinical Instructor keeps track of student performance.	3.61	Very Satisfactory	
5. Active role in in learning by participation in class activities by students.	3.62	Very Satisfactory	
6. My teacher acts as my facilitator of my learning in the delivery of the course material.	3.70	Very Satisfactory	
7. Instructional approaches are varied in utilizing to gauge the learning.	3.70	Very Satisfactory	
8. The nursing procedure provided can be measured through the learning outcome specified.	3.70	Very Satisfactory	
9. Examinations given measures the learning outcome provided.	3.60	Very Satisfactory	
10. Communicate clearly what learning outcome needs to be achieve.	3.64	Very Satisfactory	

A *very satisfactory* rating means that the respondents believe that the outcome-based education approach has been used *always* in the implementation of the curriculum. In its implementation, it placed emphasis on clearly articulating on what students are expected to know and be able to do, that is, what skills and knowledge they need to have, when they become nurses in the future. The faculty always had this

articulated at the start of their classes. This has been made evident in indicator, in which the respondents rated the highest when they “experienced that they were oriented with the program outcomes, course and learning outcome at the start of the semester.” This indicator emerged as the highest with a mean of 3.82, which is very satisfactory. It is supported by the second indicator that states that the educators state the measurable learning objectives at the start of the class, with a mean of 3.74. These indicators are the key components in the implementation of an outcome-based education approach. It reflects that majority of their response’s ranges from very satisfactory. The nursing curriculum is a performance-based education. The outcome-based education approach is a student-centered approach that focuses on accomplishment of the learning outcomes. These learning outcomes should reflect the competencies of nursing students and the need to consider how the nurse graduates’ roles and responsibilities are addressed. The CHED designed an outcome-based education program to be implemented in the delivery of its course curriculum. This is regulated by memorandum order CMO 15 series 2017 stipulating its policies, standards, and guidelines. The shift from competency-based standards to outcome-based curricula allows the Institution to innovate the curriculum to achieve its learning outcomes. The training and development of students’ performance are assessed based on competency acquired. The outcome-based education emphasizes what learners should know, understand, demonstrate and how to adapt to future life roles (Killen, 2000). Implementing the outcome-based education approach is suited for the College of Nursing where the learner is assessed based on performance. A learner centered approach to education offers a powerful and appealing way of reforming and managing nursing education (Singh and Ramya, 2011). However, based on the respondents, they rated lowest the indicator “examinations given measures the learning outcome provided”. Although it is still described as a very satisfactory remark, it was considered the lowest in this indicator. The response may reflect that there was some limitation on how the examination addressed specified learning outcomes. This can be acknowledged as respondents had less exposure in the clinical area brought about by the pandemic where clinical and community exposure were restricted. This limits their understanding and processing of concepts on each of these learning outcomes stated. It is a good indicator to assess the delivery of the outcome-based education process. Despite this limitation, the respondents overall rating on the outcome-based education is rated as *very satisfactory*.

The respondents recognize that the community-based approach has *always* been implemented. The rating provided was *very satisfactory*. This community-based approach is one of the curriculum design processes. The nursing curriculum implemented is a competency and community-based approach. It is integrated in the delivery as it always included in the curriculum design. The nursing curriculum aims to develop a professional nurse who can assume entry-level positions in community settings. The integration of Community Health Nursing enables them to participate in the community setting along with the advances in science and new approaches for

improving health. The practice considers appropriate interaction with the community residents in promoting health, illness prevention, disease prevention, and rehabilitation. During the pandemic, the respondents had limited interaction with those in the community, believing that pandemic affected the delivery of face-to-face interaction. Their entry-level in the community allows them to integrate the basic approach in implementing community integration considering the COPAR process. They conducted interviews with the residents in an assigned barangay considering an appropriate tool to come up with a community diagnosis. The overall mean describes the respondents’ very satisfactory remarks on community-based approach. They recognize that it has been implemented most of the time in the implementation of the curriculum. The standard deviation 0.42 shows that the responses are clustered around the mean. Thus, they recognize that this approach has been implemented always in the curriculum implementation.

Frequency and Percentage Distribution of the Respondents on the Curricular Design considering Community Based Approach

Intervals	Frequency	Percentage	Descriptor
3.25 – 4.00	114	82.61	Very Satisfactory
2.50 -3.24	23	16.67	Satisfactory
1.75 – 2.49	1	0.72	Poor
Total	138	100.00	
Mean	3.67	Description: Very Satisfactory	SD: 0.0.42

Intervals	Mean	Descriptor
1. I find my integration in the community relevant in my future.	3.67	Very Satisfactory
2. I understand the basic principle in primary health care.	3.78	Very Satisfactory
3. I am aware of the different health programs in the community.	3.49	Very Satisfactory
4. I know the role of public health nurse in the delivery of care in the community.	3.77	Very Satisfactory
5. I can determine appropriate strategies related to promotion of health and illness prevention.	3.67	Very Satisfactory
6. I take an active role in the care of client in community settings.	3.67	Very Satisfactory
7. I engage in community health nursing activities.	3.60	Very Satisfactory

On top of that, implementing Community Health Nursing was followed up with an online class where virtual simulation is done on the approaches considered in community development. The respondents recognized that they could understand the basic principle in primary health care with a mean of 3.78. This comes as the highest rated indicator. Primary health care is the framework used in the approach to health delivery in the community. According to WHO (2021), primary health care is a whole of-society approach to health that aims at ensuring the highest possible level of fitness and well-being on people's needs and as early as possible along the continuum from health promotion and disease prevention to treatment, rehabilitation, and palliative care, and as close as feasible to people's everyday environment."

The awareness of the different health programs was rated the lowest by the respondents. This means that some of them may not be directly aware of the other programs implemented by the government. This indicator enables the educators to grasp information to improve and enhance students’ learning. On the whole, community-based approach is rated very satisfactory.

Frequency and Percentage Distribution of the Respondents on the Curricular Design considering Research Based Approach

Intervals	Frequency	Percentage	Descriptor
3.25 – 4.00	120	86.96	Very Satisfactory
2.50 -3.24	16	11.59	Satisfactory
1.75 – 2.49	1	0.72	Poor
1.00 - 1.74	1	0.72	Unsatisfactory
Total	138	100.00	
Mean	3.73	Description: Very Satisfactory	SD: 0.0.43

Intervals	Mean	Descriptor
1. Integrate research methods in the care of the client.	3.59	Very Satisfactory
2. Conducts assessment in the care of client considering its past and present medical history.	3.78	Very Satisfactory
3. Analyze client condition based on gathered data.	3.79	Very Satisfactory
4. Selects appropriate assessment and intervention tools and techniques based on literature review, consultation with colleagues and other resources.	3.71	Very Satisfactory
5. Performs evidence-based nursing procedures safely and effectively.	3.79	Very Satisfactory
6. Reviews research literature to determine appropriate.	3.67	Very Satisfactory
7. Evaluates clients condition based on gathered and analyzed data.	3.78	Very Satisfactory

The table shows that the respondents rating on the research-based approach on curricular design was *very satisfactory*. The majority of respondents (87%) said that the research-based approach was *always* used while delivering curriculum. The research approach has been integrated across all levels. The respondents are already oriented on the basic research framework. With proper orientation, respondents have a better grasp of the nursing research as it is integrated in the curriculum, not as a subject but as a process. As early in their sophomore year, they were already exposed to community diagnosis. The respondents were taught to process or analyze cases and the use of nursing process through assessment, diagnosis, planning, implementation and evaluation. The overall response reflects that research process has been rated very satisfactory by the respondents with a standard deviation of 0.43. The ratings support their acknowledgement of the utilization of the research process as part of the curriculum delivery. Nursing research has an influence on current and future professional nursing practice, thus rendering it an essential component of the educational process (Hasbullah et al., 2011). The respondents rated research-based approach highest (3.79) in indicator, which reflects "analyzing client condition based on gathered data and performs evidence-based nursing procedures safely and effectively.". Integrating research in the nursing curriculum supports the framework utilized in the care of clients in the nursing process. The integration of this process has been emphasized from their entry-level as freshmen up until their senior year. Nursing research is crucial in clinical practice and integration into the curricular design. For many nursing students, integrating academic research concepts into clinical practice has been exciting and interesting. Research provides the foundation for high-quality, evidence-based nursing care. Mentorship in nursing education and research fosters professional, scholarly, and personal growth for both the mentor and mentee. This opportunity will open the door for nursing, students, and educators alike to undergo professional development through a mentor-mentee relationship (Hasbullah et al., 2011). The learning experience allows them to develop their research expertise in the clinical and community experience. Students are exposed to evidence-based nursing practice throughout their curriculum; however, the allocated time for nursing research is

often limited. Overall, research design is rated as very satisfactory.

Problem 3: What is the respondents' performance in terms of the following core competencies?

3.1 Core Competency

3.1.1. Safe and Quality Care

3.1.2. Teamwork and Collaboration

3.1.3. Ethical-Legal Responsibility

Core Competency: Safe and Quality Nursing Care

Frequency and Percentage Distribution of Clinical Instructors' Ratings on the Student-Nurses' considering Core Competency on Safe and Quality Care

Intervals	Frequency	Percentage	Descriptor
3.25 – 4.00	37	26.81	Very Satisfactory
2.50 -3.24	101	73.19	Satisfactory
Total	138	100.00	
Mean	3.73	Description: Very Satisfactory	SD: 0.0.43

Intervals	Mean	Descriptor
1. Conducts a comprehensive and systematic nursing of clients with an interdisciplinary framework.	3.17	Satisfactory
2. Uses strategies to enhance the skills of the client to participate in developing the methods and tools for data gathering	3.13	Satisfactory
3. Groups assessment data by condition using appropriate assessment framework by type of client.	3.09	Satisfactory
4. Interprets data gathered.	3.14	Satisfactory
5. Identifies the factors associated with the condition/s for the existence of the problem.	3.14	Satisfactory
6. States nursing diagnosis/nursing problem.	3.17	Satisfactory
7. Sets priorities among a list of conditions or problems.	3.17	Satisfactory
8. Specifies objectives of care maximizing client's competencies.	3.17	Satisfactory
9. Uses methods to maximize client/family participation in planning appropriate interventions.	3.13	Satisfactory
10. Utilizes therapeutic interventions appropriate to psychosocial phenomena and maladaptive behavior patterns identified.	3.07	Satisfactory
11. Collaborates with client support system in developing, implementing and evaluating the plan of care.	3.11	Satisfactory
12. Performs evidence-based nursing procedures safely and effectively.	3.13	Satisfactory
13. Utilizes participatory approach in evaluating outcomes of care.	3.07	Satisfactory
14. Describes client's progress to nursing and health interventions based on standard.	3.12	Satisfactory
15. Revises nursing care plan based on outcomes and standards considering optimization of available resource	3.10	Satisfactory

Table above describes the respondents' performance in the core competency considering safe and quality nursing care. Majority (73.0%) of the respondents were rated as satisfactory by the Clinical Instructor. None of the clinical instructors rated them as poor and unsatisfactory. The clinical instructors believe that the nursing students have moderately attained the core competency in safe and quality nursing care. The mean ratings given by the clinical instructors show that their competency on safe and quality care is satisfactory. This core competency is moderately attained by the respondents. The standard deviation of 0.24 shows that the clinical instructors' responses were almost the same. The ratings from the Clinical Instructor were rooted from the fact that the clinical exposure of the respondents is limited. This is brought about by the pandemic where restriction is imposed for their clinical exposure. Thus, actual handling and care of client was hampered and so with observance of the development of this core competency on safe and quality nursing care.

The clinical instructors were the ones who rated the performance of the respondents. They were the ones who supervised the respondents during their clinical experience. At the time the study is conducted, the respondents were exposed to the different clinical areas like the Intensive Care Unit, Medical-Surgical areas, Hemodialysis, Operating Room, and

Delivery Room. The students were given the highest mean ratings on the indicators on "(1) conducts a comprehensive and systematic nursing assessment of clients within an interdisciplinary framework. (2) states nursing diagnosis/nursing problem. (3) sets priorities among a list of conditions or problems. (4) specifies care objectives maximizing the client's competencies. Based on these indicators, these are all part of the nursing process. The respondents are expected to master all of these activities before they can take care of their clients. The respondents are expected to learn to understand the assessment, statement of the nursing diagnosis, setting priorities, and making specific objectives as early in their freshman years. Understanding this process will aid them in performing nursing interventions effectively and safely. Overall, the core competency on safe and quality care is rated as satisfactory.

Core Competency: Collaboration and Teamwork:

Frequency and Percentage Distribution of Clinical Instructors' Ratings on the Student-Nurses' considering Core Competency on Collaboration and Teamwork

Intervals	Frequency	Percentage	Descriptor
3.25 - 4.00	61	44.20	Very Satisfactory
2.50 - 3.24	76	55.07	Satisfactory
1.75 - 2.49	1	0.72	Poor
Total	138	100.00	
Mean	3.24	Description: Very Satisfactory	SD: 0.43

Intervals	Mean	Descriptor
1. Maintains good interpersonal relationship intra-agency and interagency.	3.43	Very Satisfactory
2. Respects the role of the other members of the health team.	3.38	Very Satisfactory
3. Acts as liaison/advocate of the client during decision making by the interprofessional team.	3.15	Satisfactory
4. Explores views of clients prior to decision making.	3.13	Satisfactory
5. Uses approaches to enhance the capability of the client to participate in decision-making.	3.10	Satisfactory
6. Supports the views of clients to care providers.	3.26	Satisfactory

Based on the table presented it shows the respondents' core competency considering collaboration and teamwork. The clinical instructors rated the respondents as satisfactory with a mean of 3.24. This means that the clinical instructor consider that the respondents have moderately attained their core competency on collaboration and teamwork. A little over half (55.90) of the instructor rated them as satisfactory. It describes that they had moderately attained their core competency on collaboration and teamwork. About 44 percent of the clinical instructors rated them as very satisfactory. The standard deviation of 0.43 shows that the responses are close to the mean. Thus, most of the clinical instructors had almost the same ratings on the students' core competency on collaboration and teamwork.

The indicator on "maintaining good interpersonal relationship" was rated highest with a very satisfactory remark. The students were conscious and aware how interaction with hospital staff would be shown. In their clinical practice, they are asked to be professional in working with the hospital staff together with their clinical instructor. They are being trained on how to deal with them. The most crucial part of their clinical exposure is to interact with members of the team, the patient and their significant others. In the care of the client, members of the health care team are important in health management. In

nursing, collaboration and teamwork are essential competencies that the students must achieve before becoming professionals. As early as in level two, the students are tasked to be working in groups. This is to develop their dealings and relationship with other team members. With this early development, it will be instilled in their minds and hearts that maintaining healthy relationship with the team is an essential component of teamwork and collaboration.

As a core competency, clinicians should be able to "work in interdisciplinary teams." They are expected to cooperate, collaborate, communicate, and integrate care in the teams to ensure that care is continuous and reliable to the patient (Rosen et al., 2018). A fragmented health care delivery system is a common cause of the medical error. In this study, shared processes initiated in the classroom and clinical areas significantly promote student nurse-to-nurse collaboration that positively impact on the observer. Overall, the core competency on teamwork and collaboration is rated as satisfactory.

Core Competency: Ethico-Legal Responsibility:

Frequency and Percentage Distribution of Clinical Instructors' Ratings on the Student-Nurses' considering Core Competency on Ethico-Legal Responsibility

Intervals	Frequency	Percentage	Descriptor
3.25 - 4.00	43	31.26	Very Satisfactory
2.50 - 3.24	93	67.39	Satisfactory
1.75 - 2.49	2	1.45	Poor
Total	138	100.00	
Mean	3.13	Description: Very Satisfactory	SD: 0.32

Intervals	Mean	Descriptor
1. Specifies the ethico-legal bases for providing safe, quality and professional nursing care.	3.19	Satisfactory
2. Makes professional decisions within ethical and legal parameters.	3.11	Satisfactory
3. Executes the ethical reasoning process used in arriving at decisions to address situations of ethical dilemma.	3.04	Satisfactory
4. Decides on cases based on ethical reasoning	3.12	Satisfactory
5. Articulate clearly the scope and standards of nursing practice.	3.01	Satisfactory
6. Shows evidence of legal requirements in the practice of nursing (i.e. current professional license)	3.12	Satisfactory
7. Articulates the vision, mission, and values of the institution where one belongs.	3.29	Satisfactory

The table shown reflects that the clinical instructors rated the student-nurses' as satisfactory in their core competency on ethico-legal responsibilities. This means that the instructors consider the respondents as having moderately attained this core competency on ethico-legal responsibility. More than half (67.39%) of the respondents were rated by the clinical instructors as satisfactory which explains that their core competency has been moderately attained. The rest of the instructors rated them as very satisfactory. The standard deviation of 0.32 shows that the responses are close to the mean.

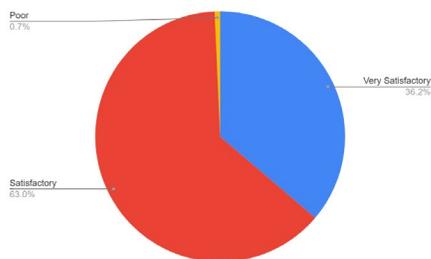
It can be noted that the respondents were rated highest in the indicator, "articulating the vision, mission, and values of the institution where one belongs (3.29)" described as satisfactory. This indicator shows that it is moderately attained by the student-nurses. The vision- mission of the institution has always been emphasized especially at the start of each semester. How it is deepened and assimilated by the respondents depends on how it gives impact to them. Though the ratings were satisfactory, it has been noted that this had helped them in their care of their clients. What is most significant is that this indicator has been consistent with the core values imparted to

them that comes the highest on “faith that does justice”. The core values shown and developed by the campus ministry also reveals a very significant result. Integrating these core values in the care of client has become their “trademark” that they can apply in addressing ethical dilemma issues.

The clinical Instructors observed that this indicator has been dominant among the students’ respondents. As a student, they are expected to learn and understand the core vision- mission, and values that the institution offers to them. This is the initial process in which the ethical-moral-legal responsibilities are integrated into their mind and hearts as they practice their profession. Nursing students have always emphasized the core values of competence, conscience, caring, and compassion in the care of the client. If one can imbibe these core values in his system, then some ethical dilemmas in the clinical area can be quickly processed by the student nurses and carry them over where they become professionals. Fortunately, the institution as a Catholic University has been a collaborator in instilling these values in the respondents. The patient should always be the first and primary concern. The nurse must recognize the need for the patient to include their thought in care practices.

Ethical values are essential for any healthcare provider. Nurses should have an adequate understanding of basic legal concepts and issues relevant to the nursing profession to protect the rights of the clients and the nurses (Paudel Subedi et al., 2018). Understanding professional boundaries and how they relate to patient care outcomes is essential. Overall, the core competency on ethico-legal responsibility is rated as satisfactory.

Clinical Instructors’ Ratings on the Student-Nurses’ Respondents considering the Overall Core Competency:



The overall core competency of the respondents is rated as satisfactory. This means that the core competencies on safe and quality nursing care, teamwork and collaboration and ethico-legal responsibility were moderately attained by the respondents. More than half (63%) of the clinical instructors rated the respondents as satisfactory, that their core competency considering the following: safe and quality nursing care, teamwork and collaboration and ethico-legal responsibility are rated satisfactory which means that they have moderately attained the said competency. The standard deviation of 0.29 means that their responses are close to the mean.

These core competencies are the recommended core competencies for professional nurses to possess in their line of care and service. These should be the inherent competency of

professional nurses. Safe and quality nursing care is one core competency that highlights the nursing practice. Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes. It is based on evidence-based professional knowledge and is critical for universal health coverage (WHO, 2022). According to the World Professional Alliance describes collaboration and teamwork happens when multiple health workers from different professional backgrounds work with patients, families, careers, and communities to deliver the highest quality of care across settings. As stated by American Nurses Association, ethical-legal competencies serve to guide nurses in their daily practice and set primary goals and values for the profession. Its function is to provide a succinct statement of the ethical obligations and duties of every individual who enters the nursing profession (Haddad & Geiger, 2021).

Clinical placement experiences are an integral aspect of practice development for undergraduate nursing students. This is for them to acquire competencies and abilities to learn independently, make decisions, and express ethical commitments. Development of nursing practice requires synchronicity of both knowledge application and clinical skills. Students must demonstrate the ability to integrate these professional requirements of the qualified nurse for which they are being prepare. The most effective way to ensure that students acquire competencies is to integrate the teaching of those skills in the course curricula in a holistic approach to teach disciplinary knowledge and generic skills. In health care settings, it is important to assess the competencies that are essential for the nursing students to prepare them for future professional duties. Overall, the core competency is rated as satisfactory.

To what extent do the inputs affect the outputs?

Table 4 Multiple Linear Regression Analysis on the Extent that the Input Variables Explain the Core Competency of the Nursing Students

Independent Variables	Unstandardized Regression Coefficients	T Value
x1: FACISKILLS LAB	0.14	1.63 ns
xx: FACICLASSROOM	-0.22	-2.18ns
xs: FACILIB	0.001	0.01 ns
x4: FACIONLINE	-0.6	-0.68 ns
x4: FACULCEXP	-0.14	-1.45 ns
xs: FACULTEACHEXP	0.15	1.30 ns
Constant:	2.81	

Adjusted R²: .03 F-value: 1.30ns There is not model (ns).

*: significant, where 0.01 < α ≤ 0.05

Above table shows the result of the input variable on the variation on core competency. It shows that the input variable and entry requirement explain a variation (3%) in the Core Competency. However, the study has not established significance (F- value 1.30ns) on the input variable on core competency. The findings further show that the null hypothesis on no significant effect on the input and process variables are generally not rejected (F=1.30ns). Thus, facilities, faculty, affiliating agencies, and support system do not predict the core competency on safe and quality care, teamwork and

collaboration and ethico-legal responsibilities

A study conducted by Al-Alawi et.al. (2020) states that cognitive and noncognitive variables were used to predict students' success in school. The results showed otherwise, as admission (RTCU and NAT) criteria did not affect the students' competency level. The non-cognitive variables used in this study, including facilities, faculty, support services, and affiliating agencies were not related to students' competency development. The nonsignificant findings are contributed by the respondents' ratings on each of the input variables given. Facilities, faculty, support services and affiliating agencies had very satisfactory ratings. Each of these variables had play a significant role in their learning environment. Each of this variable does not significantly affect their core competency; however, it will create a learning environment to develop their full potential as a learner. This paper is limited only to the findings of the three-core competencies of the respondents, however as a nurse graduates, more competencies are required before they became professionals.

Quality education is the foundation for developing competent health professionals capable of delivering safe and quality care. Both theoretical and practical preparations are key components of the nursing curricula, which are needed for nursing students to achieve a professional level of nursing competence (Immonen et al., 2019). The result is contrary to the findings of the study of Jayasekara et al., (2018) where classroom, simulation, and practice-based laboratory experiences contribute essentially to students' learning development. Experience in actual clinical practice settings is an irreplaceable component in preparing students for competent professional practice.

To what extent do the process affect the outputs?

Table 5 Multiple Linear Regression Analysis on the Extent that the Process Variable Explain the Core Competency of the Nursing Students

Independent Variables	Initial Model		Final Model	
	Unstandardized Regression Coefficients	T Value	Unstandardized Regression Coefficients	T Value
X ₁₅ CurrDesignOBE	.013	.14*	.14*	2.28*
X ₁₆ CurrDesignComBased	-.117	1.84ns		
X ₁₇ CurrDesignResearchBased	.007	.077ns		
Constant: 2.65	R ² : 0.04	F value: 5.21* (p-value=.02)		
Initial Model: y' = 0.14CurrDesignOBE + 2.65y' = 0.14x ₁₅ + 2.65				

Legend: MLR -Multiple Linear Regression Analysis

ns = not significant

*: significant, where 0.01 < α ≤ 0.05

The above table further shows that the variable on Curriculum Design considering Outcome Based Education explains a variation (4%) in the Core Competency. The result is significant (F value - 5.21*). The curriculum design considering the outcome-based education approach significantly affects the

core competency Thus, the null hypothesis is rejected. For every 1 unit increase in curriculum design considering the outcome-based education approach, the core competency will increase by 0.14. Holding curriculum design OBE constant at 2.65. However, the null hypothesis on the curriculum design considering community based and research-based approach and delivery of instruction considering traditional teaching strategies, online learning, and clinical exposure on no significant effects on core competency are not rejected.

The nursing program is a competency-based approach curriculum. The use of an outcome-based education approach is rightly fitted into the curriculum being adapted. The use of this OBE approach is considered synonymous with competency-based education. Competency-based education is focused on learner performance and achieving learning outcomes. This is comparable to the core principles of outcome-based education. Nursing competencies are described as measurable behavior measured in knowledge, action, and skills in the nursing practice (Tan et al., 2018).

The result from this study supports the nursing student-respondents' rating on outcome-based education. The indicator the "orientation on program outcomes, course outcomes and learning outcomes" emerged as the highest. Moreover, it has been supported by the indicator on "measurable learning outcomes". This tells us that the respondents are very much aware how this curriculum is anchored on OBE. Curricular contents and learning processes are driven by outcomes/competencies specified for educational programs. Curriculum development for outcome-based education therefore starts with outcomes of education rather than with a predetermined set of contents to be included in an educational program. Outcomes/competencies are the bases for identifying and determining key educational contents and instructional processes. Outcome-based education not only requires contents to be identified by outcomes but also instructional designs to be incorporated with competency-driven approaches (H. S. Kim, 2012). "Analyze client condition based on gathered data" is one of the indicators that highlights the utilization of OBE approach. The students are given enough time to conduct individual encounter with the patient. In this manner, personal encounter and dealing with the client allows him to think critically and function in accordance with the nursing standards. The clinical instructor is responsible for assessing the learning outcomes achieved by students (Al-Alawi et al., 2020). They are expected to provide the students with continuous, tailored, and constructive feedback on their performance and skills.

Another indicator from this study that supports how OBE is implemented is the use of clinical cases with simulated patients and real patients and problem-based learning which were rated highest in the traditional teaching strategies. Clinical Instructors must ensure that these strategies are in place and provided to the students. This is to provide them with learning situations and to increase their responsibility to work independently (Immonen et al., 2019). Clinical Instructors ensure that adequate communication and assessment skills are maintained and developed in order to effectively support the learning process of students. Thus, using this approach in the nursing

curriculum will help achieve the competencies required of a nursing graduate. Positive effects on nursing students' competencies are observed after OBE interventions (Tan et al., 2018).

4. Conclusion

The study reveals that General Systems Theory helps describe the interrelationship of the variables in the study. This study reveals that the input variables do not affect the output, however, the process variable affects the output. The outcome-based education significantly affects the core competency. The use of outcome-based education as a process and approach in the implementation of the curriculum helps the nursing students attain the core competency. The nursing program measures a competency approach that focuses on learner performance and achieves learner outcomes in the field. The outcome-based education approach in nursing education affects nursing students' competencies. It improves their higher-order thinking skills, thus achieving higher learner satisfaction.

The input variables do not significantly affect the development of competency. The facility and the faculty do not have a significant relationship in the core competency development of the nursing students considering safe and quality care, collaboration, and teamwork, ethico-legal responsibility.

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