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Measuring Nursing Students' Competency Achievements Based on Outcome-Based Education

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Abstract

Measuring nursing students' competency achievement is a crucial component in ensuring the quality of graduates who are ready to practice professionally safely and effectively. The Outcome-Based Education approach emphasizes the achievement of students' actual abilities through alignment of the curriculum, learning process, and a continuous evaluation system. This study aims to explore in-depth the process of measuring nursing students' competency achievement based on Outcome-Based Education from the perspectives of final-year students and clinical supervisors. The study employed a qualitative design with a phenomenological approach. Participants were selected purposively until data saturation was achieved. Data were collected through in-depth interviews, participant observation, and document review, followed by thematic analysis. The results identified five main themes: understanding the concept of Outcome-Based Education, the gradual and continuous process of measuring competency, factors supporting competency achievement, barriers to implementing outcome-based evaluation, and the impact on readiness for professional practice. The outcome-based approach has been shown to improve the integration of theory and practice, improve students' self-confidence, and improve critical thinking skills. However, challenges remain, including variations in assessment standards, limited practice time, the administrative burden of evaluation, and anxiety about competency testing. These findings confirm that measuring competency based on Outcome-Based Education requires standardized instruments, strengthening the capacity of clinical supervisors, and ongoing institutional support.

Keywords: Nursing Student Competency, Outcome-Based Education, Clinical Learning Evaluation, Nursing Education, Qualitative Research

Introduction

Nursing education has a strategic responsibility to produce competent, professional graduates capable of

providing safe and high-quality healthcare services. These competencies encompass not only knowledge but also clinical skills, professional attitudes, critical thinking skills, and the application of evidence-

based practices in real-life healthcare settings. Therefore, the modern nursing education system emphasizes an outcomes-oriented learning approach, or Outcome-Based Education (OBE), which focuses on the learning outcomes students should possess upon completion of the education process (Tan et al., 2018). This approach places students at the center of learning and emphasizes alignment between the curriculum, learning strategies, and evaluation systems with expected competencies.

Conceptually, OBE emphasizes that graduates must be able to demonstrate what they know, understand, and can do in the context of professional practice. A systematic review showed that the implementation of OBE in nursing education had a positive impact on improving students' knowledge, clinical skills, professional attitudes, and learning satisfaction (Tan et al., 2018). These findings emphasize the importance of measuring competency achievement as an integral part of OBE implementation, as curriculum success is measured not only by the learning process, but primarily by the outcomes achieved by students.

In the context of nursing education in Indonesia, various studies indicate that student competency achievement remains challenging. Competency is understood as a combination of knowledge, skills, and behaviors that enable individuals to effectively perform tasks according to professional standards (Miniati et al., 2020). However, evaluations of professional practice show varying levels of student competency achievement, indicating the need for a more comprehensive and sustainable measurement system.

One important aspect in assessing competency is students' ability to apply evidence-based practice (EBP). EBP is a core competency for professional nurses because it contributes to improving the

quality of nursing care. Correlational studies show that nursing students' level of EBP knowledge is influenced by age, academic ability, and English language proficiency. Therefore, educational strategies need to consider these factors to improve student competency (Fa'izah et al., 2021).

Furthermore, student readiness for the national competency test is also an important indicator of learning outcomes. Research shows that student anxiety levels in the face of competency tests are quite high and can impact graduation (Melliasany & Perceka, 2021). This situation indicates that competency assessment should not be conducted solely at the final stage but should be implemented gradually throughout the educational process to ensure students' academic and psychological readiness.

Various evaluation methods have been used to measure nursing students' clinical competency, one of which is the Objective Structured Clinical Examination (OSCE). The OSCE is considered a comprehensive competency measure because it assesses not only cognitive aspects but also students' practical skills and clinical performance (Herlianita & Pratiwi, 2015). Furthermore, the use of clinical practice modules has been shown to improve nursing students' physical examination skills, demonstrating that structured learning interventions can support competency achievement (Nugroho et al., 2019).

Competency improvement efforts are also carried out through intensive guidance leading up to the nursing professional competency test. Research shows that intensive guidance programs effectively increase student readiness for competency tests (Choeron & Metrikayanto, 2019). These findings reinforce the importance of systematic learning and evaluation strategies within the OBE framework to

ensure all students achieve minimum competency standards.

Furthermore, evaluation of student competency in EBP learning indicates that there is still a need for reinforcement throughout the educational process to prepare graduates for evidence-based professional practice (Tarigan et al., 2018). This indicates a gap between curriculum objectives and actual student outcomes, making OBE-based measurement increasingly important. International research also confirms that clinical learning experiences, institutional readiness to implement the OBE curriculum, and case-based learning design significantly influence the improvement of nursing students' knowledge, self-efficacy, and clinical performance (Amoo & Enyan, 2022; Widyatuti et al., 2022). Therefore, OBE implementation is not only related to curriculum changes but also requires an assessment system capable of capturing students' competency development holistically.

Based on this description, it can be concluded that measuring nursing students' competency achievement based on OBE is a crucial aspect in ensuring the quality of graduates. Although various evaluation methods have been used, there is still a need to understand in-depth how the competency measurement process is carried out, the factors that influence it, and the experiences of students and educators in implementing OBE. Therefore, qualitative research is needed to comprehensively explore this phenomenon to provide a basis for developing a more effective, contextualized competency evaluation system oriented towards improving the quality of nursing education.

Method

Research Design

This study uses a descriptive qualitative approach with a phenomenological perspective to deeply explore the experiences, perceptions, and meanings constructed by students and lecturers regarding the measurement of competency achievement based on Outcome-Based Education (OBE). This qualitative approach was chosen because it can explain the complex, contextual phenomenon of nursing education, which is closely related to human experiences in both clinical and academic learning processes. This approach emphasizes the exploration of meaning, interpretation of experiences, and a comprehensive understanding of the social realities in nursing practice.

Phenomenology is considered relevant because it allows researchers to understand the subjective experiences of participants in implementing an outcomes-based curriculum, as used in research on the experiences of nursing educators or students through in-depth interviews and thematic analysis of the meaning of learning experiences.

Furthermore, qualitative approaches have been widely used in nursing education research to explore dialogic case-based learning experiences, theory-practice integration, and the dynamics of evidence-based learning that cannot be fully explained through quantitative methods.

Research Location and Participants

The research was conducted in a nursing study program at a university that had implemented an OBE-based curriculum. Participants consisted of: 1) final-year nursing students who had participated in outcomes-based clinical learning; 2) lecturers or clinical supervisors involved in student competency evaluation.

Participant selection used purposive sampling, taking into account direct

experience with OBE implementation and the competency evaluation process. This technique is commonly used in qualitative research in nursing education to obtain informants capable of providing in-depth information about the phenomenon being studied. The number of participants was determined based on the principle of data saturation, which occurs when additional interviews no longer yield new themes. This approach is common in qualitative phenomenological studies in the field of nursing.

Research Instruments

The primary instrument was the researcher herself, who played a role in collecting, interpreting, and analyzing the data. To maintain consistency, the following were used: 1) a semi-structured interview guide, 2) an observation sheet, and 3) a document analysis format. In qualitative nursing research, the involvement of the researcher as the primary instrument is an important characteristic because it allows for in-depth interpretation of human phenomena.

Data Analysis Technique

Data analysis used phenomenological thematic analysis through the following stages: 1) Verbatim transcription of interview results, 2) Repeated reading to understand the overall meaning, 3) Coding units of meaning, 4) Grouping codes into themes, and 5) Interpreting the essence of participants' experiences.

Phenomenological analysis methods, such as Colaizzi's, are commonly used in nursing research to extract the meaning of experiences and generate conceptual themes that represent participants' realities. The thematic approach is also used in research on student experiences in evidence-based learning to identify patterns of learning meaning.

Data Validity

Data validity was maintained through: 1) Source triangulation (students, lecturers, documents), 2) Method triangulation (interviews, observations, documents), 3) Member checking with participants, and 4) Audit trailing the research process. These strategies are common procedures in qualitative nursing research to ensure the credibility and validity of the findings.

Result

This study aims to explore in-depth the process of measuring nursing students' competency achievement using Outcome-Based Education (OBE) through the experiences of final-year students and clinical supervisors. Based on in-depth interviews, participant observation, and analysis of curriculum documents and assessment instruments, five main themes emerged that represent the phenomenon of competency measurement in OBE-based nursing education.

1. Participants' Understanding of the Concept of Outcome-Based Education

Most students and lecturers interpreted OBE as a learning approach that emphasizes the end result of professional practice skills, rather than simply completing course material. Students stated that learning outcomes became clearer because each clinical activity was linked to specific competencies that must be achieved.

However, there was variation in understanding. Some students still viewed OBE merely as an administrative change to the curriculum, rather than a transformation of the learning process. Lecturers also revealed that the socialization of the OBE concept was uneven, resulting in differing interpretations of competency achievement among clinical supervisors.

These findings indicate that the success of competency measurement is greatly influenced by a shared perception of the goals of OBE among all educational stakeholders.

2. A Gradual and Continuous Competency Measurement Process

The results of the study indicate that student competency measurement is not conducted at a single point in time, but through a series of formative and summative evaluations, including:

- Daily clinical practice assessments through logbooks
- Laboratory skills exams and OSCEs
- Professional attitude assessments by supervisors
- Final program competency exams

Students assessed this system as helping them monitor their progress gradually. Meanwhile, lecturers stated that the continuous approach allows for early identification of students who have not yet achieved standards. However, inconsistencies were found in the application of assessment rubrics across practice sites, which could potentially affect the objectivity of competency achievement measurements.

3. Factors Supporting Student Competency Achievement

Thematic analysis identified several factors that significantly support students' success in achieving OBE-based competencies, namely:

- a. Clarity of Learning Outcomes. Students found it helpful when competencies were detailed in the form of measurable clinical skill indicators.
- b. Intensive Clinical Mentoring. Direct interaction with clinical supervisors provides concrete feedback on student performance, accelerating the improvement of practical skills.

- c. Integration of Theory and Practice. Case-based learning and reflective discussions help students connect academic concepts to real-life patient situations.
- d. Supportive Clinical Environment. A practice area with a positive learning culture increases students' confidence in performing nursing procedures.

These four factors form a learning ecosystem that aligns with the OBE principle, ensuring students truly achieve professional competency.

4. Barriers to Measuring OBE-Based Competency Achievement

Beyond various supporting factors, this study also identified several key barriers:

- a. Variation in Assessment Standards. Differences in clinical supervisors' perceptions lead to unequal competency scores even though student performance is relatively equivalent.
- b. Administrative Burden of Assessment. Lecturers revealed that OBE documentation is time-consuming and labor-intensive, potentially reducing focus on direct mentoring.
- c. Limited Practice Time. Students feel that a certain clinical practice duration is insufficient to optimally master complex skills.
- d. Anxiety Facing Competency Tests. Psychological pressure leading up to final exams impacts the performance of some students, even though they have participated in the continuous learning process.

These barriers demonstrate that OBE implementation depends not only on curriculum design, but also on the readiness of the evaluation system and institutional support.

5. Impact of OBE Implementation on Readiness for Professional Practice

The final theme illustrates that, in general, students and faculty perceive the OBE approach as improving graduates' clinical practice readiness. Students feel more confident conducting patient assessments, determining nursing diagnoses, and planning interventions independently. Lecturers also observed improvements in critical thinking skills, therapeutic communication, and professional responsibility compared to the previous process-oriented curriculum. However, this readiness was deemed not yet fully equitable across all students, particularly in competencies requiring complex clinical experience, such as emergency medicine and case management.

Synthesis of Findings

Overall, the research results indicate that:

- a. OBE is understood as an approach oriented toward the actual abilities of graduates, but still requires strengthened socialization.
- b. Competency measurement is gradual and ongoing, but not yet fully consistent.
- c. Key supporting factors include clarity of outcomes, clinical guidance, theory-practice integration, and the learning environment.
- d. Key barriers include variations in assessment standards, administrative burden, limited practice time, and exam anxiety.
- e. The impact of OBE tends to be positive on professional readiness, although not evenly distributed.

These findings confirm that OBE-based nursing student competency achievement measurement is a multidimensional process influenced by pedagogical, clinical, psychological, and institutional factors.

Discussion

The results of this study indicate that measuring nursing students' competency achievement based on Outcome-Based Education (OBE) is a multidimensional process involving conceptual understanding, ongoing evaluation mechanisms, factors supporting clinical learning, and various implementation barriers. This finding aligns with global nursing education literature, which emphasizes that OBE focuses not only on curriculum change but also on transforming the competency evaluation paradigm toward measuring graduates' actual abilities in professional practice (Tan et al., 2018).

The first theme, related to understanding the OBE concept, demonstrated varying perceptions between students and faculty. This is consistent with systematic research findings that suggest that the success of OBE implementation is significantly influenced by the alignment of stakeholders' understanding of learning outcomes and graduate competency indicators. Disparities in interpretation can lead to inconsistencies in learning strategies and evaluation methods (Tan et al., 2018). Therefore, curriculum socialization and faculty training are crucial components in ensuring the effectiveness of outcome-based competency measurement.

Furthermore, this study found that competency assessment occurred in stages and continuously through clinical logbooks, OSCEs, professional attitude assessments, and a final competency exam. This multi-layered evaluation mechanism aligns with the concept of authentic assessment in nursing education, which emphasizes the integration of cognitive, psychomotor, and affective assessments. Validation studies of nursing competency measurement tools indicate that continuous assessment improves measurement

reliability and provides a more comprehensive picture of students' readiness for practice (Ko & Yu, 2019). Therefore, the longitudinal evaluation approach found in this study reinforces the fundamental principle of OBE, which assesses learning outcomes concretely and progressively.

However, findings regarding variations in assessment standards among clinical supervisors indicate challenges in maintaining assessment objectivity. The literature suggests that differences in evaluator perceptions are a major source of bias in assessing students' clinical competency. Psychometric evaluations of competency instruments demonstrate the importance of standardized rubrics and assessor training to improve score consistency and evaluation fairness (Huang et al., 2022). In other words, the success of OBE-based assessments depends not only on instrument design but also on the quality of assessment implementation in the clinical setting.

The next theme relates to factors supporting competency achievement, namely clarity of learning outcomes, intensive clinical guidance, theory-practice integration, and a supportive clinical environment. These findings strengthen the evidence that outcome-based learning effectively improves nursing students' knowledge, skills, professional attitudes, and learning satisfaction. A systematic review showed that learning strategies structured around competency outcomes can enhance higher-order thinking skills and professional practice readiness (Tan et al., 2018). Furthermore, clinical experiences supported by effective supervision have been shown to contribute significantly to the development of core competencies in novice nurses (Ko & Yu, 2019). Thus, the success of OBE is largely determined by the quality of the learning ecosystem, not simply the design of the written curriculum.

On the other hand, this study identified barriers to OBE implementation, including the administrative burden of assessments, limited practice time, and student anxiety in facing competency tests. These findings align with international research highlighting the complexity of OBE implementation in health education, particularly related to the need for intensive assessment documentation and demands for accountability for educational quality. Evaluations of patient safety programs in nursing education also indicate that limited resources and practice time can hinder the achievement of optimal clinical competency (Kim et al., 2022). Therefore, strengthening institutional support is a crucial factor in the sustainability of OBE implementation.

The final theme indicates that OBE has a positive impact on graduates' professional practice readiness, characterized by increased self-confidence, critical thinking skills, therapeutic communication, and clinical responsibility. This finding is consistent with research suggesting that competency-based education improves clinical performance and students' transitional readiness to professional practice. Integrating outcome assessment with real-life clinical experiences has been shown to strengthen evidence-based decision-making skills in novice nurses (Huang et al., 2022; Tan et al., 2018). Therefore, OBE can be viewed as a strategic approach to ensuring the quality of nursing graduates in the era of complex healthcare.

Overall, this discussion confirms that OBE-based competency achievement measurement is a holistic process influenced by alignment of curriculum understanding, the quality of evaluation instruments, the effectiveness of clinical guidance, and support from the educational system. The transformation towards OBE is not simply achieved through changes to curriculum documents; it requires a shift in

evaluation culture, increased faculty capacity, and standardization of clinical assessments. Without the integration of these components, competency measurement risks becoming merely administrative and not reflecting the actual abilities of graduates.

Therefore, the results of this study provide important implications for the development of nursing education, particularly in designing an objective, sustainable, and contextual competency evaluation system. A qualitative approach allows for an in-depth understanding of student and faculty experiences, thus providing a basis for more comprehensive improvements to OBE implementation in the future.

Conclusions and Recommendations

This study demonstrates that measuring nursing student competency achievement using Outcome-Based Education is a holistic, ongoing process influenced by various pedagogical and clinical factors. The outcomes-based approach has been shown to help clarify learning directions, enhance the integration of theory and practice, and strengthen students' readiness to undertake professional roles. A multi-step evaluation mechanism through clinical assessments, skills exams, and professional attitude assessments provides a more comprehensive picture of competency. However, challenges remain, including variations in assessment standards among supervisors, limited practicum time, the administrative burden of evaluations, and student anxiety regarding competency testing. These conditions indicate that the successful implementation of Outcome-Based Education depends not only on curriculum design but also on the readiness of the evaluation system, faculty capacity, and support from the educational institution and practice site.

Based on these findings, it is recommended that nursing educational institutions strengthen the standardization of assessment instruments, improve clinical supervisor training, and develop a more objective and efficient ongoing evaluation system. Furthermore, academic and psychological support strategies are needed for students to improve their preparedness for professional practice and competency testing. Further research is recommended to explore technology-based evaluation models to support more adaptive and accurate competency measurement.

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