

# UNFOLDING CASE STUDIES THROUGHOUT THE CURRICULUM TO STIMULATE STUDENTS' DEEPER LEARNING

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## Abstract

Nursing faculty strive to develop innovative teaching methods that will ideally prepare nursing students for current complex healthcare settings. It is common that faculty perceive a need for content-laden curricula that seems to complicate integration of cutting-edge methods of teaching that are necessary for transforming nursing education. An innovative teaching method that includes unfolding case studies using narrative pedagogy where students, faculty, and nurses connect as they share clinical, simulation, and classroom experiences may lead to more profound learning for students. A unique way of students assisting faculty and nurses in the development of unfolding case studies intends to provide students with enhanced learning opportunities in order to link concepts with evidence-based practice; therefore, discover deeper understanding of nursing concepts.

Keywords: unfolding case studies, curriculum, pedagogy, teaching methods.

## 1 INTRODUCTION

The Future of Nursing Report [1], and National League for Nursing (NLN) [2] reveal an expectation that nursing programs integrate strategies for academic progression from beginner to advanced nursing. Improving nursing curricula rely on integrating teaching and learning principles that reflect a student-centered approach supported by evidence [3]. Student-centered approaches that guide students to seek understanding and interpret meaning of situations help them to begin "thinking like a nurse" [4]. Narrative and reflective pedagogies are examples of student-centered approaches that guide students to seek understanding and interpret meaning of situations that help them to begin "thinking like a nurse" [4]. Students' reflecting on clinical, simulation, and classroom experiences helps to engage them in transformational learning where they build on experiences and knowledge across settings and through time. Reflection contributes to the students' making sense of situations and pursuing ideal solutions that improve quality and safety during care [5]. An idea to facilitate thinking like a nurse and provide a deeper learning experience for students is to transform students' reflection about their clinical and simulation experiences to unfolding case studies, which are case studies that build in complexity, and thread these case studies throughout the Bachelor of Science with a Major in Nursing curriculum at Indiana University Purdue University Fort Wayne, United States. The unfolding case studies concept derived from the NLN's Advancing Care Excellence for Seniors (ACES) unfolding case studies that targeted gerontological nursing care [2].

The NLN describes unfolding case studies as case studies that "evolve over time in a manner that is unpredictable to the learner. New situations develop and are revealed with each encounter" [2]. Whereas case studies provide a means to explore or analyze a situation, unfolding case studies provide an opportunity for reflecting on stories about unpredicted patient situations through time [6]. NLN suggested integrating realistic situations in nursing curricula by combining classroom, clinical, lab, and simulation learning activities for advancing care of older persons [2]. As students advance in their nursing knowledge, skills, and attitudes, they grow in managing and coordinating care and making situational decisions as described by NLN [2]. Developing case studies that would become more complex as they build on the previous course content and student clinical experiences would seemingly enhance students applying previous and new knowledge in managing care and making situational decisions.

Nursing faculty are currently faced with challenges in developing innovative teaching methods to stimulate nursing students' various learning desires and needs and also capture current complexity of care in healthcare settings [7]. Additionally, content-laden curricula have become an obstacle to essential transformation of nursing education for improving students' learning [7, 8]. Furthermore, there is a need for faculty to instill narrative pedagogy in curricula where students and faculty connect as they share experiences where they can "see, listen and respond" to clinical experiences that

stimulate students' understanding and deeper learning [8]. The use of unfolding case studies provides students with a unique way to work with faculty and other students while linking concepts with evidence-based practice; therefore, discover deeper understanding of concepts [3].

The purpose of this research project is to explore ways to develop unfolding case scenarios that reflect students' clinical and simulation experiences throughout the nursing curriculum. The aims of this project are to:

- 1 Gain students perspectives of learned concepts from unfolding case studies that build in complexity from the beginning to advanced nursing clinical courses.
- 2 Evaluate students' understanding of learned concepts reflecting knowledge, application, analysis, and comprehension.
- 3 Discover ways to use unfolding case studies that promote students' deeper learning for building knowledge, skills, and attitudes in the novice level of nursing.

Benner's Novice to Expert Theory provided guidance in creating and integrating the unfolding scenarios in the curriculum. According to Benner [9] and Benner, Tanner, and Chesla [10], beginners have minimal to no experience with nursing situations. The novice, or beginning nurse, gains knowledge and advances into the stage of the advanced beginner characteristic of nurses first entering the nursing field [10]. An advanced beginner nurse understands situational components that meaningfully pertain to a situation. For example, the nurse can handle patient care that is similar to what he/she has experienced in the past. However, at the advanced beginner level, the nurse focuses on one aspect of the whole. Beginners and advanced beginners can take in only pieces of the situation. The advanced beginner then progresses toward the competent nurse who has performed in the nurse role for two to three years. The competent nurse can view actions in terms of goals and demonstrate competency as a proficient nurse who can see the wholeness versus components of situations. The nurse can distinguish and target problems and determine what important steps to take. The nurse grows into the expert role with no longer relying on analytical principles, but instead demonstrates intuition and has a deeper understanding of situations.

## 2 METHODOLOGY

Development of the case studies began when a senior nursing student, Registered Nurse (RN) from one of the local healthcare systems, and a faculty member invited groups of students to informally share their clinical and simulation experiences about the topic of immobility. Students in the beginning Introduction to Nursing course brainstormed about their clinical experiences of providing care for patients with immobility and discussed potential problems and preventative measures about immobility concepts they had learned in class and simulation. Students in the subsequent nursing clinical courses: medical surgical, psychiatric, and advanced acute care, were asked to add their own ideas about experiences and content they had learned. As students provided ideas for generating the case studies for their clinical courses, faculty from the courses, and the principal investigator and co-investigators who were RNs also contributed information for assuring that course objectives were met (See Fig. 1). Simulated videos of each of the clinical course client situations were recorded using informal actresses and actors. Students working with faculty provided networking opportunities that seemed to enhance the students' making sense of the client situations as described by Sherwood and Horton Deutsch [5] (See Table 1).

Beginning in the Fall 2017 semester, a focus group method will be used to gather in-depth understanding about students' perceptions of their learning from the unfolding case study presented in each of the clinical courses. The focus groups will provide interaction that not only will include the students' actual words, but also non-verbal communication that may enhance exchanging of perceptions. The principal investigator and co-investigators will select test question item analyses that reflect case study content from the comprehensive exam detailed analysis report for each clinical course. Test item analyses will be examined for focus group students' test question scores reflecting knowledge, comprehension, application, and analysis of concepts included in the unfolding case study scenarios. Purdue University, which oversees internal review for research conducted by the Indiana University Purdue University Fort Wayne nursing program, provided Internal Review Board approval for the study.

Carey and Asury [11] asserted that focus group interviews are conducted by researchers who intend to collect rich, detailed information that reflect holistic beliefs and perspectives about a topic. Students who attend clinical classes view videos of the unfolding case study and participate in the case study

small group discussions will be invited to participate in semi-structured focus group sessions to share their perceptions of growth and learning of nursing concepts related to the case study. The focus group sessions will be digitally audio recorded for approximately 30-60 minutes. Field notes will be recorded to add clarity and insight to communication shared by the students. Triangulation using test question analyses for this study is intended to provide insight about the students' understanding of concepts related to the unfolding case study in parallel with their perspectives about learning from the increasingly complex patient situations. The test item analysis report is electronically reported and reflects a median, mean, standard deviation, reliability co-efficient, and point-biserial statistics in order to examine validity and reliability of test questions.

A purposive sampling method will be used for selecting nursing students of any gender or age who attend clinical courses in the nursing program at Indiana University Purdue University Fort Wayne. After the principal investigator and/or co-investigators invite the nursing students to take part in the study, the students who plan to participate in the study will be advised to contact the principal investigator and/or co-investigators after the class for planning a meeting time to go over study requirements, discuss and sign the consent form, and schedule the focus group interview. Those students who desire to participate will agree to attend the clinical classes, view the unfolding case study videos, and attend the small group discussions in each of the clinical courses. Students who consent to take part in the study will agree to attend a 30-60 minute focus review of the case study and permit the principal Investigator and/or co-investigator(s) to view selected questions that reflect the case study content from the comprehensive exam for each of the clinical courses.

Undergraduate students are selected because they are learning beginner level nursing concepts that fit the purpose of this study. Sixty to seventy-two students enrolled in the Introduction to Nursing course, the first nursing course in the program, will view the first case study video and receive a hand-out prior to taking part in small group discussions as a scheduled assignment within the class. It is essential to establish trustworthiness between faculty and students taking part in the study in order to promote open and honest relationships that promote validity of the study. Nursing students attending clinical courses who are not present during the in-class unfolding case study and do not view the video presentation nor attend the small group discussions, or do not plan to attend subsequent clinical course classes and take part in the unfolding case study video presentations and small discussions will be ineligible to participate in the study. Students will be assured that their participation or lack of participation will in no way affect their grade in the clinical course nor any subsequent grades in the nursing program. The principal investigator and/or co-investigator(s) will explain that no incentives nor monetary award will be provided as a result of taking part of the study and there is no obligation for them to take part in the study. The students will be informed that they may withdraw from the study at any time during their enrollment in the undergraduate nursing program. Benefits and risks will be described to the students who agree to participate in the study. Information about secure storage of the recordings, confidentiality, and de-identified communication (verbal and non-verbal) will be shared with the participants. The focus group interviews will be transcribed by the Principal and Co-Investigator(s).

A more complex case study building on the previous clinical nursing course will also be presented using a video and hand-outs in each subsequent clinical nursing course. The unfolding case study captures a new interprofessional approach to end of life care where an Advanced Care Planning (ACP) team comprised of an expert in end of life care planning and a social worker are included in one of the latter program videos. During the video, the ACP team demonstrates how interdisciplinary teams assist the healthcare team in holistically managing end-of-life care. Students in the psychiatric nursing course reported having inadequate exposure to care of dying clients in their clinical experiences and suggested that the client in the unfolding case study "dies." The videos of the client actualize the complexity of care for the regressing client status where the client dies in the last clinical course case study.

Using inductive reasoning, conventional content analysis described by Hsieh & Shannon [12] will be used to identify patterns and categories that reveal the students' learning experiences from the unfolding case studies. Conventional content analysis permits categories to emerge from the data with a goal to describe students' descriptions of learning. The content analysis will be grounded in the actual data derived from the students' responses to open-ended questions followed with probing open-ended questions presented by the principal investigator and/or co-investigators during the focus group sessions (See Table 2).

### 3 RESULTS

Students' reflection on their clinical practice simulation experiences and concepts they learned in the didactic class provided unique ideas for development of the unfolding case study. Students captured the physiological, psychosocial, environmental, and spiritual aspects of care and suggested ideal solutions to assure holistic care, quality and safety of a client with an onset of immobility whose status regresses to the dying process. One major improvement in the curriculum occurred because of awareness that students' desired more experience and information about care of clients in the dying process. As shown in Table 1, the students applied concepts for the case study development at the level of learning achieved in their clinical nursing courses.

Gaining insight from students' perspectives as they participate in the completed unfolding case study scenarios implemented in the clinical courses will provide new knowledge about including unfolding case studies as a learning tool in the curriculum. Although the purpose of this study is not to measure students' knowledge as a result of the unfolding case study, test item analyses will provide data that may identify if themes that surface from students' perspectives are in juxtaposition with test item evaluation of students' knowledge, application, comprehension, and analysis of learned concepts.

#### 3.1 Abbreviations, Figure, and Table

##### 3.1.1 Abbreviations and Acronyms

National League for Nursing (NLN)

Advancing Care Excellence for Seniors (ACES)

Registered Nurse (RN)

Advanced Care Planning (ACP)

##### 3.1.2 Figures and Tables

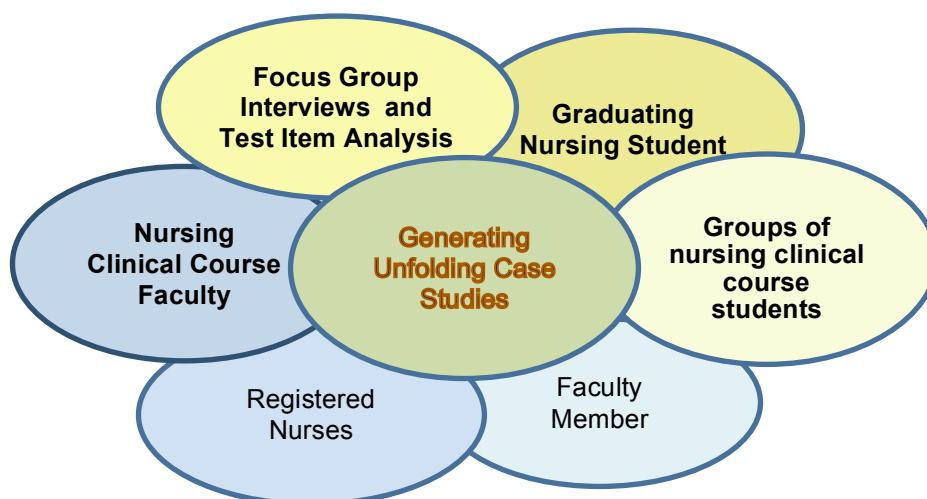


Figure 1. Iterative process where nursing students and faculty collaborated while developing the unfolding case study.

Table 1. Concepts Introduced by Clinical Course Student Groups for developing the unfolding case study.

|  |   |  |
|--|---|--|
| Bachelor of Science Nursing Program Clinical Courses | Students' Ideas Derived from Clinical, Simulation, and Didactic Classes Contributed to Unfolding Case Study | Faculty Member, Registered Nurse, and Nursing Clinical Course Faculty Concepts Contributed to Unfolding Case Study |
|--|---|--|

|                         |   |  |
|-------------------------|---|--|
| Introduction to Nursing | <p>(N=5 Students)</p> <p>Pressure ulcers</p> <p>Range of Motion</p> <p>Contractions</p> <p>Social isolation</p> <p>Outside stressors (no local family)</p>  | <p>(N=4 Faculty, RN, Senior Undergraduate Student)</p> <p>Immobility is a key topic shared in the Introduction to Nursing course.</p> <p>Described Patient Admitted to Hospital through Emergency Room</p> <p>Include video recordings for each clinical course level of a simulated patient situation using live models</p> |
| Medical-Surgical II     | <p>(N=4 Students)</p> <p>Identified Guillain Barre' Syndrome as the etiology of Signs and Symptoms</p> <p>Flu Immunization Effects</p> <p>Pressure ulcers</p> <p>Decreased bone density</p> <p>Range of Motion</p> <p>Assistive Devices</p> <p>Contractions</p> <p>Supportive others</p> <p>Social isolation</p> <p>Pet Therapy</p> <p>Care of Patients and the Taboo of Immobility (Choose easy way to provide care by doing tasks that the patient can do).</p> <p>Hopelessness</p> <p>Body Image</p> <p>Hopelessness</p> <p>Pulmonary needs</p> <p>Antibiotics</p> <p>Interdisciplinary Team Needs (Respiratory Therapy)</p> | <p>N=4 Faculty, RN, Senior Undergraduate Student</p> <p>Introduced signs and symptoms of Guillain Barre'</p>   |

|                      |   |   |
|----------------------|---|---|
| Psychiatric Nursing  | <p>(N=5 Students)</p> <p>Depression</p> <p>Gerontological factors (delirium, stress of illness, nutritional needs, diagnostic tests)</p> <p>Risk of suicide</p> <p>Costs of care</p> <p>Medications</p> <p>Coping skills</p> <p>Guided Imagery</p> <p>Cognitive Behavioral Therapy</p> <p>Family Therapy</p> <p>Meditation</p> <p>Chaplain and Support Groups</p> <p>Ethics Committees</p> <p>Crisis Situational Debriefing</p> <p>Interdisciplinary Teams-Social Services</p> <p>Aroma Therapy</p> <p>Massage Therapy</p> <p>Students stated they would gain deeper learning in the case study if the patient "dies"</p> | <p>(N=4 Faculty, RN, Senior Undergraduate Student)</p> <p>Described Patient Improving and Discharge to Home with Home Health Care Visits</p>  |
| Medical Surgical III | <p>(N= 3 Students)</p> <p>Fall risk</p> <p>Lack of circulation and fluid build-up</p> <p>Potential Ventilation Support</p> <p>Nursing interventions to promote mobility (Up out of bed)</p> <p>Risk factors, muscle loss, social isolation, Using interdisciplinary team members for assistance</p> <p>Safety Using Lifts</p> <p>Pain</p> <p>Dysphagia and associated risks</p> <p>Fear of being unable to walk</p>   | <p>(N=4 Faculty, RN, Senior Undergraduate Student)</p> <p>Described Patient Regression in Status and Readmitted to Hospital</p> <p>Advanced Care Planning Team</p>                                    |
| Advanced Acute Care  | <p>(N=1 Student)</p> <p>Rehabilitation</p> <p>Wound management</p> <p>Pulmonary Hygiene</p> <p>Intubation-Ventilation</p> <p>Feeding Tube</p> <p>Monitoring Vital Signs</p> <p>Foley Catheter</p> <p>Potential for Infection</p> <p>Spirituality</p> <p>Anxiety</p> <p>Fear</p> <p>Care of Dying Patient</p>  | <p>(N=4 Faculty, RN, Senior Undergraduate Student)</p> <p>Described Continued Regression of Status Signs and Symptoms, Psychosocial factors and External Stressors (Daughter Preparing for Death)</p> |

**Table 2.** Questions Used to Guide Focus Group Interviews

|   |
|---|
| What did the case study contribute to your learning?<br>What do you feel you learned most from the case study?<br>Describe connections from this case study to concepts that you previously learned in this class (including your clinical and simulation experiences for this class).<br>Describe connections from this case study to concepts that you learned in your previous nursing classes (including your clinical and simulation experiences for those classes).<br>Reflect on the patient's situation in the case study that provided an 'aha moment' for you?<br>How does the case study influence your preparation for the beginner level of nursing? |
|---|

## 4 CONCLUSIONS

The idea of integrating unfolding case study scenarios throughout the undergraduate nursing curriculum is intended to facilitate students' thinking like a nurse and provide a deeper learning experience that assists them to evolve toward the beginner nurse role. Students and teachers welcoming each other into a learning community encourages dialogue and reflection as they collectively explore and discern questions about situations [8,13]. In addition to students building connections with RNs, faculty, and other students, the creation of unfolding case studies provided students to reflect on their own experiential learning. The goal is for students to stimulate their own inquiry for new knowledge as well as facilitate other nursing students to begin problem solving and thinking like a nurse. Working with the RN, senior student, and faculty members while developing the unfolding case study provided students with opportunities to share their own ideas about meaningful concepts related to a growing complex client situation.

Focus group interviews will provide insight about students' perceptions of their own learning growth as a result of their participation in unfolding case study presentations. Students' participation in developing the case study scenarios provided connection for students to learn from other students' experiences. The focus group interviews may result in students providing additional ideas derived from their own experience for expanding the case study scenarios. Test item analyses will contribute data that may add insight about students' perceptions of their learning growth.

Nursing graduates' transition into nursing roles that require knowledge, skills, and attitudes to manage complex healthcare circumstances. Unfortunately, beginning nurses tend to feel thrown into a world of reality shock where they learn to use skills for resolving challenges in nursing care according to Kramer [14]. However, novice nurses who learn to reason and think analytically are positioned to develop practice and knowledge skills that lead to adjustment [4]. Integrating the unfolding case study throughout the curriculum will seemingly facilitate students' critical thinking and clinical reasoning skills so that they are better prepared to manage such complex client situations.

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