

Traditional Lecture or Experiential Learning: Changing Student Attitudes

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ABSTRACT

In an attempt to excite baccalaureate nursing students about nursing research, a traditional, lecture-style nursing research course was transformed into an experiential, interactive course. Attitudes toward research were compared between students who received the lecture course and those who participated in the experiential course. Students in the experiential course exhibited significantly more positive attitudes toward nursing research than students in the traditional lecture course.

Nurse educators are faced with the challenges of fostering nursing students' attitudes toward the research process and helping them become informed consumers of research. In an attempt to address these challenges, the authors redesigned the traditional lecture format course into an experi-

ential, interactive, teaching-learning model.

To determine the effectiveness of this newly created model, students participated in an instructor-led research project. The purpose of this research was to determine whether there were attitudinal differences about research between undergraduate nursing students taught using interactive instruction and those taught using the traditional lecture method. Results indicated a statistically significant improvement in students' attitudes using the experiential model.

This article shares the results of this creative, experiential, teaching-learning technique. This technique enhanced appreciation for nursing research among undergraduate nursing students.

Literature Review

The National League for Nursing Accrediting Commission (2002) and the American Nurses Association (1998) expect baccalaureate nursing students to be consumers of research and implement evidence-based research into their practice following graduation. However, these students frequently begin their undergraduate nursing research course with negative attitudes and expectations about research (Laschinger, Johnson, & Kohr, 1990; Schlapman, 1989). Swenson and Kleinbaum (1984) found that nursing students' negative attitudes toward research at the beginning of the research course were unchanged 1 year later.

To help undergraduate nursing students understand the value of incorporating nursing research into practice, nurse educators report a number of innovative ideas. Strategies that enhance students' understanding and use of research have included use of crossword puzzles (Beck, 1986), cookie experiments (Thiel, 1987), participant observations performed by students (Dean, 1986), field trips (Kessenich, 1996), oral histories (Duggleby, 1998), small group work (Halloran, 1996), patient chart reviews (Neidich, 1990), and poster sessions (Beal, Lynch, & Moore, 1989).

Slimmer (1992) studied the effects of students' writing a research proposal on their attitudes toward research and concluded that writing a research proposal enhanced students' knowledge and understanding of the relevance of research concepts. Harrison, Lowery, and Bailey (1991) found that students' attitudes toward research were more positive at the end of the nursing program, compared to the beginning of the research course. They reported incorporating the use of research article critiques and examinations and having students work in small groups to develop research proposals. Pond and Bradshaw (1996) similarly reported that actively involving students in data collection of postpartum mothers' feelings of confidence in caring for their infants brought about positive changes in students' attitudes and behaviors, compared to traditional lecture approaches.

As a result of the literature review and prior concerns regarding stu-

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dents' negative comments toward research, the authors decided to determine whether attitudinal differences about research existed between undergraduate nursing students taught using experiential learning and those taught using the traditional lecture method. In addition, most of the research in this area is more than 10 years old. This article reveals that attitudinal differences do exist between students who participated in the experiential model and those who participated in the traditional lecture model.

Method

Sample

The sample consisted of all junior-level and senior-level nursing students enrolled in the baccalaureate of science nursing (BSN) program. The experiential model was piloted with all 25 junior-level students who enrolled in the nursing research course. The comparison group consisted of 19 senior-level students who had received the traditional lecture method when they completed the nursing research course the previous year. Both groups completed a 2-credit hour research course.

The demographic characteristics of the groups were similar (Table 1). Students were primarily White women between ages 20 and 30.

Procedure

The college's institutional review board approved the research protocol. The authors explained the study during one of their nursing classes and then invited students to participate. No remuneration was offered for participation. Students were asked to anonymously complete a questionnaire in the final weeks of their respective spring courses. A statement of informed consent was included at the top of the questionnaire. Passive consent was obtained when students completed and submitted the questionnaire.

Traditional Model

The traditional model consisted of three components: lecture format,

Characteristic	Junior-Level Students (N = 25) n (%)	Senior-Level Students (N = 19) n (%)
Age		
20 to 30	22 (88)	16 (84)
> 30	3 (12)	3 (16)
Gender		
Female	24 (96)	18 (95)
Male	1 (4)	1 (5)
Race		
White	23 (92)	18 (95)
Other	2 (8)	1 (5)

article critiques, and examinations. The traditional lectures on the steps of the research process were presented by faculty. The students critiqued a research article examining the new steps presented in the lecture, in addition to the previously covered steps. Comprehensive examinations were administered periodically throughout the semester. Faculty responsibilities included lecture delivery and grading of critiques and examinations.

Experiential Model

The experiential model consisted of three components: a hands-on problem-solving activity, a mini-research project, and a critique. The hands-on activity and mini-research project were group work, and the critique was an individual homework activity, with follow-up class discussion. All three components were used for each step of the research process. Faculty responsibilities included facilitating classroom discussions, guiding hands-on activities, and coaching each group's mini-research project. In addition, faculty provided many examples of the ways research can be used in everyday nursing practice. Faculty encouraged students to critically contemplate their clinical experiences and identify opportunities for research.

Hands-On Problem-Solving Activity.

The hands-on problem-solving activity included various tasks for each step of the research process. For most

tasks, students formed small groups to solve a mini-problem for a particular research step. The problems included props to enhance learning and interaction. Each group was assigned a different mini-problem, and groups shared their problems and solutions with the class. After each group solution was presented, the instructors led a discussion on application to the research process and nursing. Table 2 lists the hands-on activities used to help students experience different types of research.

Mini-Research Project. The instructors selected four real-life issues common to college students or nurses (i.e., tobacco, sleep deprivation, seat belt use, hand washing). Students were allowed to self-select into one of the four groups, and each group completed the following research steps:

- Conducted an Internet-based literature search.
- Wrote a literature review and problem statement.
- Determined their methodology.
- Collected data.
- Analyzed data.
- Interpreted findings.
- Communicated their findings through a poster presentation.

Critique Homework and Classroom Discussion. The final experiential component consisted of critiquing three articles. The articles varied widely and were selected to expose students to different types of

TABLE 2
Description of Hands-On Mini-Problems and Solutions for "Types of Research"

Instructions: Groups select one of six bags filled with props and are directed to ask a research question for the types of research indicated in their bag.		
Types of Research	Props	Student Solutions
Experimental versus non-experimental	Jump ropes of different colors	<i>Experimental:</i> Do individuals who jump rope and diet lose more weight than individuals who diet only? <i>Non-Experimental:</i> What color jump ropes do people choose?
Retrospective versus prospective	Jacks	<i>Retrospective:</i> How many jacks were sold in 1950 versus 2000? <i>Prospective:</i> Will hand-eye coordination improve if third graders play jacks once a week for 3 months?
Cross-sectional versus longitudinal	Building blocks	<i>Cross-sectional:</i> How high will children of various ages build a block tower? <i>Longitudinal:</i> What will the height of a block tower be for the same child at different ages?

research (i.e., experimental, quasi-experimental, qualitative), levels of reading difficulty (i.e., easy to technical), and specialties, ranging from critical care to health promotion. Students critiqued the same three articles throughout the semester. Each homework assignment required students to critique one step of the research process. There were a total of nine homework assignments:

- Types of research.
- Problem identification.
- Sample.
- Hypotheses.
- Research design.
- Measurement.
- Data collection.
- Data analysis.
- Interpreting and using the findings.

Instrument

Students responded to a 15-item survey questionnaire using a 5-point Likert scale. Response choices ranged from strongly disagree to strongly agree. The questionnaire was intended to measure students' perceptions and attitudes about their:

- Ability to see the relevance of research in nursing practice.
- Interest in research.
- Belief in the importance of research as a basis for patient care.
- Confidence in understanding research.

The questionnaire was based on the attitude questionnaire developed

by Swenson and Kleinbaum (1984). Faculty from various academic disciplines assessed the content validity of the questionnaire. The internal consistency of the instrument, as measured by Cronbach's alpha, was .91 for the junior-level students and .86 for the senior-level students. Nursing faculty administered the questionnaire on the authors' behalf during other theory courses.

Results

A two-tailed *t* test was performed on the data to identify any significant differences between the course delivery method (i.e., traditional lecture and experiential methods) and students' attitudes toward nursing research. Significance was found [$t(42) = 3.981; p = .001$], such that the junior-level students, using the experiential model, exhibited significantly more positive attitudes toward nursing research (mean = 64.2, *SD* = 6.85) than the senior-level students, using the traditional lecture model (mean = 53.4, *SD* = 11.4). Because the mean indicates students' attitudes toward research, the experiential model group therefore demonstrated a more positive attitude toward research, which supports the hypothesis of this study.

Although at face value these data indicate positive attitudes toward nursing research, they should be interpreted with caution. Although

the response rate was 100%, the sample was small. To further validate the findings, a larger sample would be desirable. It is also important to remember this study compared two groups of students at different points in their educational endeavors. The intervening time may have influenced the reported results. For example, the senior-level students' research skills were used in performing a community assessment and developing a program plan.

Another limitation was that the textbook was changed between the 2 years, and different research articles were selected for use. In addition, a change in faculty occurred during this time as well. The faculty's enthusiasm could also have influenced the study results. To further validate these findings and address the limitations, the study will be repeated.

Implications and Conclusions

Based on the results of this study and the literature review, students' attitudes toward and appreciation of nursing research increases when they are exposed to a variety of experiential learning techniques. Theory course evaluations were greatly improved with implementation of the experiential model. Anecdotal responses on theory course evaluations included statements such as, "I looked forward to coming to class," "the hands-on activities were fun and

relevant," "the hands-on activities and mini-research project helped me understand the research process," and "we can do it [research]." The students' positive attitudes toward research were further demonstrated by several groups of students that voluntarily wrote successful grants with faculty guidance. These results support the need for nurse educators to implement experiential-style nursing research courses.

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