Nurse educators' use of lecture and active learning

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ABSTRACT

The results of numerous studies suggest that by using active learning strategies educators can improve student learning outcomes. We asked 536 nurse educators teaching in prelicensure programs to estimate the extent that they integrate active learning strategies into their courses. There were no relationships identified between the estimated extent of active learning use and program National Council Licensure Examination pass rates.

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Introduction

Educators have long defaulted to lecturing as a strategy for efficiently presenting course content. However, the teacher, in choosing to lecture, is assigning students to the relatively passive role of listening. It is not surprising that many students are unable to apply information from lecture in a meaningful way (Waldeck & Weimer, 2017).

There is a growing body of research highlighting how active learning strategies can promote deeper levels of information processing than those achieved through listening to lectures. Despite the increased discussion of and evidence for active learning, it is not clear how frequently nurse educators choose to use lectures or active learning strategies in their classes. The purpose of this article is to report results of a survey regarding the extent to which nurse educators report they use lecture and active learning in their prelicensure nursing courses.

Background

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Bonwell and Eison (1991) popularized the concept of active learning. Defined as learning activities that engage students, active learning encourages students to think deeply about what they are doing (Hyun, Ediger, & Lee, 2017). Active learning is based on constructivist theory, which emphasizes that, in order to learn, students need to be engaged with the content. With active learning, students are the primary knowledge creators and focus (Cattaneo, 2017). In comparison, the traditional passive learning approach emphasizes the instructor, who, as the expert, lectures to students while they sit passively receiving the information.

Active learning promotes higher-order critical thinking skills and involves teaching strategies such as case studies, class debates, think–pair–share activities, role playing, peer teaching, gaming, the 1-minute paper, or questions embedded into a lecture (Adkins, 2018). When students feel included and capable, they are more willing to work through challenging material. Active learning also increases a sense of community among learners and instructors (Umbach & Wawrzynski, 2005). Students who perceive a membership in the classroom community feel valued and supported. They are more likely to take ownership of their learning and consider new perspectives, a necessary step for learning to occur. Active learning strategies provide this connection for students and also enable instructors to assess students' understanding of the course content in real time. A systematic review of active learning in nursing and health profession courses by Waltz, Jenkins, and Han (2014) showed positive outcomes in 15 of 22 studies. Although many of the studies

in the review represented low-level evidence, they provide a foundation for further work.

Active learning increases students' retention of information, improves performance on course assessments, and increases standardized test scores (Styers, Van Zandt, & Hayden, 2018; Ulrich et al., 2017). Results from a study by Matsuda, Azaiza, and Salani (2017) support the concept that when students are connected with course content, learning outcomes improve overall. Active learning also improves students' perceptions of inclusiveness in the classroom and their self-efficacy (Lumpkin, Achen, & Dodd, 2015). A meta-analysis of science, technology, engineering, and mathematics (STEM) courses demonstrated that students in lecture courses were 1.5 times more likely to fail when compared with those in active learning courses. In addition, average examination scores of the active learning course participants were 6% higher than lecture course participants (Freeman et al., 2014).

Active learning strategies may improve some student learning outcomes, but does using active learning strategies support new graduate success on the nursing licensure examination? Most literature regarding forecasting graduate success on the National Council Licensure Examination (NCLEX) is tied to traditional markers including predictor examinations and course grades (Hinderer, Dibartolo, & Walsh, 2014; Johnson, Sanderson, Wang, & Parker, 2017). As a starting point, we conducted a survey to explore how educators perceive the extent of their use of lecture versus active learning in the classroom in prelicensure nursing programs. Although there is a large body of literature on active learning strategies in nursing, the extent to which faculty across schools of nursing perceive they use lecture versus active learning in the classroom is not known.

Methods

The study used a survey to collect data on the extent of time nursing faculty lectured to their students in the classroom or engaged in active learning. The survey initially asked respondents if they taught in a prelicensure registered nurse or practical/vocational nursing program. Only those faculty who indicated they taught courses at the prelicensure level received the rest of the survey items.

The survey included three items. One item asked faculty to identify the percent of classroom time that they lecture to students, with responses ranging from none to more than 75% of the time. A second item asked faculty how students would describe their classes in terms of lecture versus active learning: possible responses ranged from only active learning strategies (no lecture) in class to all lecture (and no active learning). One final item asked respondents to indicate if their school's NCLEX pass rate in 2017 exceeded the national average. The survey items were reviewed by experts for clarity. No demographic data or information about the nursing program was collected.

An e-mail was sent to the NurseTim, Inc. list serve in August 2018, with a link to the electronic survey. The survey remained open for 1 month, and there was no attempt to send reminders. A respondent could only answer the survey one time. The study was approved by the authors' university institutional review board.

Responses were downloaded from the survey software to Excel (Microsoft) and then to SAS Version 9.4 for analysis (SAS Institute Inc. Cary, NC). Data were analyzed with frequency statistics and bivariate chi-square analysis to determine if there were differences in NCLEX pass rates based on the extent of lecture and active learning in classes.

Results

There were 536 respondents to the survey. Of these, 438 taught in prelicensure nursing programs and answered the three survey items. Only a few faculty ($n = 22$, 5.02%) do not lecture in their courses or use it less than 25% of the time ($n = 66$, 15.07%). Slightly more ($n = 84$, 19.18%) use predominantly lecture (over 75% of classroom time). Most faculty lecture to students anywhere from 26% to 75% of the time ($n = 266$, 60.73%).

Nearly half of the respondents ($n = 213$, 48.63%) stated that their students would describe their classes as including equal parts lecture and active learning or mostly lecture ($n = 185$, 42.24%). Few students would describe classes in which only active learning strategies were used ($n = 24$, 5.48%).

Pass rates in the majority of the respondents' programs, as reported by the respondents, were above the benchmark ($n = 340$, 77.63%). Chi-square tests indicated there were no differences in first-time NCLEX pass rates based on the percent of lecture used in the classroom, $\chi^2(3, N = 438) = 0.45$, $p = .93$, or the balance between lecture and active learning in class, $\chi^2(3, N = 438) = 1.33$, $p = .72$.

Discussion

Active learning strategies engage students in the learning process and encourage them to reflect on their learning. Although nursing students in many programs prefer to be passive learners, nursing faculty are integrating active learning in their courses (Oermann, 2015). Often, active learning is implemented through collaborative group work, with students working together to analyze cases related to the concepts being learned in the class. A meta-analysis by Freeman et al. (2014) of 225 studies comparing traditional lecture to active learning in STEM disciplines demonstrated improved examination scores with active learning classes.

Teaching methods should be selected based on the learning outcomes to be achieved and what methods would work best considering those outcomes. Although many faculty have embraced active learning, lecture is still an effective method for presenting information to students, particularly when the teacher integrates content from multiple sources that students may not have access to or time to read. Lecture allows the teacher to present up-to-date evidence, which may not be available in textbooks, explain complex concepts, and clarify confusing points for students. Through lecture, teachers can highlight key points to remember and provide examples of how those concepts relate to patient care. Lecture also may be time saving, and it allows the teacher to provide information to a large number of students at one time (Woodring & Hultquist, 2017).

In developing and implementing nursing courses, multiple teaching methods should be used depending on the outcomes to be met and student learning needs. In this study, we found widespread use of active learning strategies in the nursing classroom but also a blend of these strategies with lecture. Few nursing faculty reported using solely active learning or lecture consistent with the goal of selecting the best methods for the outcomes to be achieved.

Nurse educators want to know what teaching methods will best support their students' learning. However, research on teaching methods is often conducted in situations from which it is difficult to generalize. Teachers need to appraise the evidence regarding teaching methods and make thoughtful choices for application with their own learners and courses. Monitoring and sharing the outcomes of using teaching practices in specific settings can be an important contribution to the scholarship of teaching and learning.

No differences were found in NCLEX pass rates based on the faculty's perceptions of the extent of active learning in the classroom. Many factors influence NCLEX pass rates, which were not examined

in this survey. In a future study, demographic data should be collected to verify pass rates and better understand characteristics of the school that could influence these rates. The extent of active learning versus lecture across the nursing program is not known but also should be examined in a future study. Providing respondents with a definition of active learning and including surveys of both students and teachers would be valuable to examine their perceptions of active learning in the classroom.

Limitations

This study examined the extent of lecture compared with active learning in nursing courses as reported by faculty. It is limited by some key factors that would have allowed for a better understanding of active learning in nursing courses. First, there were no demographic or school data collected. In addition, the data were based on instructor self-report of the use of active learning techniques, using that participant's own definition of active learning. Faculty reported that students would recognize the use of active learning strategies, but further study related to student perceptions of active learning compared with faculty perceptions is needed. In addition, the study design elicited faculty impression of student perceptions. While faculty members can provide some insight into student attitudes, further study including a student questionnaire with a definition of active learning would provide a more direct measure. Experts reviewed the survey questions for clarity and to establish face validity; a detailed and systematic approach of reviewing the survey questions would have improved the overall validity of the survey. One further limitation was that NCLEX pass rates were self reported and, as a result, cannot be validated. The faculty were not told what the national first-time average pass rate was for 2017. However, they would likely know if their own school's pass rate was below or above the national average. The specific types of active learning strategies and relationship to NCLEX pass rates also should be examined further.

Summary

There is a growing body of research highlighting benefits of active learning strategies. Despite the increased discussion of and evidence for active learning, it is not clear how frequently nurse educators choose to use lectures or active learning in their classes. This study examined the extent to which nursing faculty across schools of nursing use lecture versus active learning. Of the 438 faculty, only a few used solely active learning strategies or lectured more than 75% of the time. This survey found that, although faculty commonly use active learning strategies in their classes, they blend these strategies with lecture.

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