Introduction

Engagement of millennial learners can be difficult in context saturated lecture style learning environments. Facilitation and dissemination of knowledge occurs when learners continue to actively engage in discussion to check for understanding. Identification of best practices and preferred classroom audience response system usage were the focus of the research, as well as assessing level of student engagement and academic performance.

Rationale and Significance

Audience response systems create a collaborative learning environment. Students actively interact with content, faculty members, and previous experiences to formulate new knowledge utilizing methods appealing to their unique learning styles. Adaptive learning and skills afforded with audience response systems prepare millennial nursing students to function effectively in a dynamically shifting healthcare environment laden with technological complexities.

Background

Social constructivism provides a pedagogical framework for accommodation and reconstruction of what the millennial learner knows or thinks they know in order to formulate new cognitive and non-cognitive behaviors. Millennial learners are visually oriented, prefer multimedia learning resources while expecting instantaneous feedback. Active recall facilitated with audience response systems allows for autonomous assessment of current understanding and application of new content to foster knowledge development.

Method

An observational cohort study design was utilized in an Adult Medical Surgical course consisting of a convenience sample of junior level baccalaureate nursing students in a upstate New York University. 48 students were invited to participate. Forty-six (N=46) students enrolled in the study. Participation in survey completion was limited by attendance of students in class. The study was conducted over eight class sessions using differing audience response system learning activities. Learning activities included two exam reviews, one misconception review, three assessments of classroom readiness based on assigned readings and lecture content, and two group collaborative competitions. Student responses were measured via a 10-item questionnaire utilizing a five-point Likert scale with numerical values ranging from 1 (strongly disagree) to 5 (strongly agree). One additional open-ended question was included to assess student preferred use of audience response systems in the classroom. Two questions on the instrument collected demographic data. Content validity was established through review of the instrument by three research faculty.

Demographics

<table>
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<tr>
<th></th>
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<tbody>
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Results

Results examined best practices, engagement, and learner preference with audience response system application. Students favored the use of audience response systems to measure self against peers, clarify difficult concepts, and foster greater discussion within the classroom. Student levels of engagement were lower when linked to timed events or exam preparation. Higher levels of engagement were reported for active learning techniques involving team competitions.

Rationale: What is the study's main focus, and why? How does it contribute to the field of study?

Results: What were the findings of the study? How were the findings determined? What conclusions can be drawn from the data?

Limitations: What are the limitations of the study? How do these limitations affect the generalizability of the findings?

Discussion/Conclusion

Questions that demonstrated greater statistical significance include 1, 2, 4, 6, 7, and 8. Higher percentages indicate Agreed/Strongly Agreed, while lower percentages indicate Disagree/Strongly Disagree with the question concept. Based upon the percentages in Figure 1 and Figure 2, students had a higher level of agreement with survey questions 1, 4, 6, 7, and 8. Students were more likely to disagree with questions 3, 5, 9, and 10. Cronbach’s alpha was calculated to measure internal consistency of data sets. Internal consistency using Cronbach’s alpha was found in activities 1, 5, 5, 6, and 7, ranging from 0.75 – 0.876 for the activities.

A dichotomous view exists between faculty perceptions of meaningful learning activities with the utilization of audience response systems and student reports of preferred learning modalities. During activities in which faculty perceive students to have higher levels of engagement, learners reported lower levels of engagement and higher levels of anxiety. Educators need to be mindful that students appear to be more engaged and less anxious when completing activities that improve retention of material while not being a high-stakes assessment.

Active learning with the use of audience response clickers supports cognitive scaffolding through constructive feedback, dialogue, and reflection on current and new knowledge. Best practice use includes low-stakes, untimed activities to increase engagement and decrease anxiety. Future research should be focused on a larger sample size and reduction of confounding variables for learning activities.

Limitations

Limitations of this study were related to a small sample size, the short length of the study, and the lack of a validated survey instrument. Despite limitations, six of eight questions suggest results may be generalizable to a larger baccalaureate nursing student population. Further studies using the survey tool would confirm the degree to which findings are able to be generalized. Inter-rater reliability of survey questions appeared to be affected by an additional confounding variable.

References


