Utilizing Q Methodology to Promote Research and Evidence-Based Practice Education in Baccalaureate Nursing Students

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Purpose:

Interest is expanding related to the use of mixed method research designs in nursing to uncover relationships and diverse perspectives that may ultimately lead to better outcomes (Shorten & Smith, 2017). Exposure to undergraduate research education with undergraduate nursing students may have a significant effect on nursing students’ research skills and use of EBP, and minimize barriers to EBP uptake post-education (Leach, Hofmeyer, & Bobridge, 2016). Entry level nurses are expected to be able to read original research reports and have a basic understanding of how evidence is generated (Melnyk, Gallagher-Ford, Fineout-Overholt, & Kaplan, 2012), but undergraduate EBP and research courses primarily focus on teaching traditional quantitative and qualitative methods. Q methodology is a mixed method with unique philosophical framework and techniques that can be used to study a wide range of subjective attitudes, beliefs, and opinions (Ramlo, 2016). This innovative method can be used to generate theory, test hypothesis, for program evaluation, and quality improvement efforts (Tiernon, Hensel, & Roy-Ehri, 2017; Ramlo, 2015; Ramlo, 2016). The infusion of Q methodology within undergraduate nursing research courses offers promise toward creating connections for new nurses in the utilization of EBP in the nursing profession (XXXXX, XXXXXX, & XXXXXX, in press). This project describes undergraduate baccalaureate nursing (BSN) students’ perceptions following an active classroom session as a teaching strategy designed to introduce them to one mixed method research approach, Q methodology.

Methods:

Students enrolled in a traditional undergraduate nursing program at a Midwestern public university participated in an interactive Q methodology class given by a guest lecturer as part of a required nursing research and EBP course. After receiving Q methodology content overview, students actively engaged in a mock study by generating self-opinion statements to a given directive. The students were then asked to perform a Q sort (student response ranking) of their opinions before entering the data. Q methodology is an innovative method which utilizes person-centered data collection versus survey format to convey preferences (Simon, 2013). After reviewing the steps of data analysis, examples of undergraduate honor student Q methodology studies were shared with the group. Instruction on key concepts was completed while students applied Q methodological principles and techniques to evaluate the class. The University Institutional Review Board classified the project as non-human subjects research. Students provided written responses to four evaluations questions regarding impressions of the class and the method to populate the concourse. The nursing students then sorted a 35-item Q sample on a +4 to -4 grid. This anonymous data were analyzed with PQ Method software using centroid factor analysis and varimax rotation.

Results:

Anonymous responses were returned by all 35 undergraduate nursing students. Two student response sorts had missing data and were excluded from the analysis. Forty-five percent of the variance was explained by one bipolar and two unipolar factors: General Confusion (N=7), Seeing Usefulness (N=3), Valuing Practice (N=8), and Ambivalence to Research (N=11). Two student response sorts loaded
significantly on more than one factor indicating that those students had hybrid viewpoints. Two student response sorts failed to load on any of the factors indicating the final solution did not capture those students’ opinions. The actual course content was viewed very differently by students with the Seeing Usefulness and Ambivalence to Research perspectives. The use of teaching and learning strategies seemed to most influence the opinions of students loading on the factors of General Confusion, and Valuing Practice. Areas for improvement include reducing the amount of material offered in one session and providing prior knowledge of content. Overall, the interactive format and participating in the step-by-step mock study were positive aspects of the class.

Conclusion:

This project serves as a potential exemplar of an alternative method to evaluate student learning outcomes and provides direction for future studies on best practices for teaching undergraduate nursing research. Q methodology studies are meant to find the existence of multiple viewpoints among the participants. Had the class been evaluated using a survey tool, our interpretation might have been based on overall averaged item scores without understanding the significance of the multiple unique views or areas of consensus. Being able to read and interpret research is an essential EBP skill (Melnyk, Gallagher-Ford, Fineout-Overholt, & Kaplan, 2012). This is a single site study, and any attempts to generalize the results to other settings should be done cautiously. Still, these findings add to the body of literature supporting the need for infusing innovative teaching strategies to increase active student engagement in nursing research and EBP course content. More research is needed to understand optimal introduction to content with participatory teaching and learning methods.

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Keywords:

Nursing Research, Q Methodology and Undergraduate Education

References:


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**Abstract Summary:**

This session will share results from a mock study implementing Q methodology in an undergraduate research and evidence-based practice course. The study describes student perceptions following an active classroom session as a teaching strategy designed to introduce them to one mixed method research approach, Q methodology.

**Content Outline:**

Utilizing Q Methodology to Promote Research and Evidence-Based Practice Education in Baccalaureate Nursing Students

I. Introduction

A. Increased interest in mixed method research designs to uncover relationships and diverse perspectives that may lead to better patient outcomes (Shorten & Smith, 2017).

B. Exposure to undergraduate research education with undergraduate nursing students may have a significant effect on nursing students' research skills and use of EBP, and minimize barriers to EBP uptake post-education (Leach, Hofmeyer, & Bobridge, 2016).
II. Background

A. Entry level nurses are expected to be able to read original research reports and have a basic understanding of how evidence is generated (Melnyk, Gallagher-Ford, Fineout-Overholt, & Kaplan, 2012), but undergraduate EBP and research courses primarily focus on teaching traditional quantitative and qualitative methods.

B. Q methodology is a mixed method with unique philosophical framework and techniques that can be used to study a wide range of subjective attitudes, beliefs, and opinions (Ramlo, 2016).

III. Methods

A. Innovative method can be used to generate theory, test hypothesis, for program evaluation, and quality improvement efforts (Tiernon, Hensel, & Roy-Ehri, 2017; Ramlo, 2015; Ramlo, 2016).

B. After receiving Q methodology content overview, students actively engaged in a mock study by generating self-opinion statements to a given directive.

C. The students were then asked to perform a Q sort (student response ranking) of their opinions before entering the data. Q methodology is an innovative method which utilizes person-centered data collection versus survey format to convey preferences (Simon, 2013).

D. Students provided written responses to four evaluations questions regarding impressions of the class and the method to populate the concourse. The nursing students then sorted a 35-item Q sample on a +4 to -4 grid. This anonymous data were analyzed with PQ Method software using centroid factor analysis and varimax rotation.

IV. Results

A. The actual course content was viewed very differently by students with the Seeing Usefulness and Ambivalence to Research perspectives. The use of teaching and learning strategies seemed to most influence the opinions of students loading on the factors of General Confusion, and Valuing Practice.

B. Overall, the interactive format and participating in the step-by-step mock study were positive aspects of the class.

V. Conclusion

A. The infusion of Q methodology within undergraduate nursing research courses offers promise toward creating connections for new nurses in the utilization of EBP in the nursing profession (XXXXX, XXXXXX, & XXXXXX, in press).

B. The findings add to the body of literature supporting the need for infusing innovative teaching strategies to increase active student engagement in nursing research and EBP course content.
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**Author Summary:** Desiree Hensel is Dean and Professor at Curry College School of Nursing. She specializes in the use of mixed-method approaches to evaluate curricular design and outcomes from innovative teaching strategies in both clinical and classroom settings while also more closely examining how nurses define themselves in the 21st century.