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Development and Pilot Testing of a Multidimensional Learning Environment Survey for Nursing Students

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Background & Significance: The learning environment has a major role in determining nursing students' academic inspiration, learning, and achievement. Student perception of the learning environment is widely accepted as a significant influence on student outcomes. While there are options for assessing selected components of learning environments for nursing students such as the clinical learning environment. There are existing instruments that assess nursing student perceptions of selected environmental components, such as the clinical learning environment, yet the learning environment encompasses more than physical setting, facilities, or technology. The social, cultural, relational, digital/virtual, and academic aspects of learning environments also provide contexts for processes that shape student learning, success, and professional identity formation. Student experiences also create a personal learning environment. Complex and dynamic interactions among all components create the learning environment for students. While faculty cannot control every aspect of the learning environment, knowledge of student perceptions can guide understanding experiences and facilitate opportunities to address issues.

Purpose: The purpose of this study is to describe pilot development and testing of a multidimensional learning environment survey to explore student perceptions of multiple learning environment dimensions. The presentation will report pilot and subsequent psychometric testing as well as mixed-method data analysis results.

Methods: Development of the Learning Environment Survey began as an interdisciplinary effort to understand perceptions of, experiences and satisfaction with the shared learning environment of medical students, resident physicians, and nursing students at one academic medical center during the previous year. The learning environment was operationalized as the curriculum, including implementation, faculty, and setting, including classroom, clinical and incorporation of technology. The survey was differentiated from specific course and faculty evaluations. Key areas for evaluation were selected for aligning data points from resident and medical student surveys, and items either developed by the researchers or adapted with permission from similar existing instruments for use with nursing students. Instrument items address such overarching domains as curriculum, professional behaviors and supportiveness of faculty and clinical preceptors, wellness (school/life balance), diversity and inclusion, moral distress, integration of technology, additional development and learning opportunities, handling concerns, and feedback and evaluation. Anonymous survey items include 5 point Likert-type questions and open-ended questions for mixed-method analysis. Participants were asked not to use specific names in narrative descriptions experiences. Basic demographic information is also collected.

Results: After institutional review board approval, content validity was established with a panel of 5 faculty experts and 5 students. Expert item-content validity index (I-CVI) for items was 0.60-1.0, scale-content validity was 0.80 to 1.0, and scale-content validity index/average (S-CVI-Ave) was .94. Student I-CVI was

0.20-1.0, S-CVI was 0.77-1.0, and S-CVI-Ave was 0.92. Minor word changes were made to the low scoring items based on expert and student feedback for understanding. The instrument was then piloted with 27 pre-licensure, accelerated, second degree students. Internal consistency of scores from the major conceptual domains of the survey (e.g., Environment, Culture, Work-Life, Diversity) were promising (Cronbach's alpha \geq 0.70).

Implications: Survey results can enable faculty reflection and engagement with issues that impact nursing student learning outcomes. Next steps will include further psychometric testing of the instrument with deployment to a larger sample, which includes all nursing students at one institution, across academic programs for more robust psychometric testing. Future directions may include development of a conceptual framework, as well as multi-institutional, and ultimately national distribution of the Learning Environment Survey. While medical education and accreditation require frequent surveys and reviews of benchmark, comparative data across institutions, opportunities for data collection regarding the learning environment across similar academic nursing programs do not currently exist. Such information could assist nursing schools in understanding their unique climate and culture, as well as provide valuable aggregate data for comparing overall climates and cultures of nursing education among types and levels of institutions. National data will provide an opportunity to identify and address issues critical to the future of nursing education and the well being of nursing students.

Title:

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References:

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Abstract Summary:

The multidimensional learning environment has a major role in detaining student inspiration, learning, and achievement. This presentation will report on development, pilot psychometric testing, and data analysis results of a learning environment survey for nursing students as part of an interdisciplinary collaboration.

Content Outline:

I. Introduction

II. Background & Significance

A. Describing the Learning Environment Dimensions

B. Instruments to Measure the Learning Environment

III. Methods

A. Instrument Development

B. Validity

C. Reliability

IV. Results

A. Psychometric properties

B. Data analysis

1. Quantitative

2. Qualitative

V. Future Directions

- A. Further psychometric testing
- B. Multi-Institutional testing
- C. National Annual Distribution

VI. Conclusion

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Author Summary: Regina Russell is the Director of Learning Systems Outcomes and an Assistant in the Department of Medical Education and Administration. She oversees all all medical student surveys and leads the Learning Environment Assessment and Feedback Group.