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Advancing Clinical Scholarship with a Statistical Toolbox

Marcia P. Murphy, DNP, ANP, Beth A. Staffileno, PhD, Louis Fogg, PhD

Background

- Improving healthcare outcomes for individuals, communities and systems is an expectation of Adult-Gerontology(AG) APRNs (AACN, 2010; AACN, 2012)
- Challenge facing APRN educators is preparing larger numbers of students with the analytic skills to design scholarly projects
- Rush University transitioned the AG APRN programs to the DNP degree in 2012
- Coursework includes Statistics, Research, Project planning
- However, students struggle with the development of a rigorous evaluation plan that incorporates appropriate statistical tools necessary to lead effective change and disseminate findings
- Statistical resources for students are limited

Purpose

To provide students with statistical tools necessary to develop a 'rigorous' and effective evaluation plan to move clinical inquiries into meaningful scholarly endeavors.

Teaching Innovation

Learning Objectives

- 1. Identify how project outcomes and processes will be measured
- 2. Describe data collection and data management strategies
- 3. Identify statistical tools to address practice-based clinical problems and inquiry
- 4. Apply the statistical toolbox to a real world clinical problem

Teaching Innovation Strategy

- The Toolbox is a concise resource that includes the common statistical approaches used by APRNs
- The Toolbox builds upon previous coursework and is delivered as students are developing their DNP project evaluation plan
- A 1-hour interactive learning activity was presented demonstrating use of the toolbox:
 - developing a clinical hypothesis
 - using descriptive statistics
 - > using graphic representations to explain relationships
- Clinical examples were used to go through the process of problem identification, project planning, evaluation, and dissemination.
- Speed consultations (10 minutes) were offered to students who required additional assistance with the evaluation plan

Evaluation

- Students were given an in-person pre-survey. The survey contained four items that assessed knowledge, skills and confidence to develop an evaluation plan
- Students completed an on-line post survey 3 weeks after they attended the learning activity.

Results

- Twenty-five students (63%) attended the learning session and completed the pre-survey; 11 students (28%) completed the post-survey; 15 students (38%) attended a speed consultation
- Pre-survey 92% confidence, post-survey 100% confidence on data collection knowledge (See figure 1)
- Pre-survey 88% confidence, post-survey 100% confidence on measurement knowledge (p<.05)
- Pre-survey 64% confidence, post-survey 82% confidence on data analysis knowledge
- Pre-survey 68% confidence, post-survey 91% confidence on overall evaluation plan (p<.05)

Figure 1.



Conclusion

- These data suggest the Teaching Innovation was useful; however, given the small sample size, continued evaluation is warranted
- Significant findings were seen with respect to student confidence in measurement knowledge and overall evaluation plans
- Speed consultations added an innovative approach maximizing student statistical resources
- A rigorous evaluation plan is needed for AG APRNs to improve healthcare outcomes for older adults
- The Teaching Innovation provides a feasible and novel approach for building student knowledge, skills and confidence in designing evaluation plans