

Next Evolution of a Framework to Evaluate Informatics Competency Mastery and Guide Course and Curriculum Development

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Abstract

Background: With the increased utilization of emerging technology, nurses must have specialized knowledge and develop the competence to optimize the use of digital health technologies and tools. The best approach for evaluating nurses' competencies and tailoring education is debatable. Academicians must ensure that nurses are competent in areas such as management and application of eHealth resources and analysis and interpretation of data to deliver evidence-based care. Factors such as degree or informatics experience can predict informatics competency mastery. Several informatics assessment tools are available with little evidence of predicting competency mastery. An assessment framework is needed to determine factors that can predict mastery of core informatics competencies.

Aim/Purpose: This study aimed to assess informatics competency levels at baseline and after completion of assignments designed to apply informatics concepts and to evaluate factors that predict competency mastery.

Methods: An Internal Review Board (IRB)-exempt retrospective descriptive design was used with a convenience sample of DNP students enrolled in an online informatics course. Data collected included demographic characteristics, such as degree. Students assessed their current nursing informatics competency level (SANICS) at the beginning and end of the course. The reliability is Cronbach's alpha = 0.932. The study focus was the applied computer skills subscale which is one of three assessed by this tool. Students completed competencies focused on the use of eHealth resources and data analysis. Scores were rated as mastered, competent, or did not master. Data were assessed using paired t-tests or Chi-Square or Fisher Exact tests. P-values less than 0.05 were considered statistically significant.

Results: In relation to degree track, students were BSN-DNP (77%), RN-DNP (4%) or MSN-DNP (18%). Evaluation of baseline applied computer skill scores revealed no differences between degree tracks with the majority rating themselves as somewhat competent (RN-DNP) and the others rating themselves as competent while at the final evaluation, the majority rated themselves as proficient. Comparison of the mean baseline and final values for the applied computer skills revealed that final scores were significantly increased ($p=.008$), with the greatest increase noted in the BSN-DNP students ($p=.015$). Degree or applied computer skills subscale scores did not predict competency mastery.

Conclusions: While students' self-assessment scores in applied computer skills increased after completing informatics competencies, neither the scores nor degree predicted competency mastery. Development of a framework to guide course development and predict competency mastery needs further refinement.