

Advancing Nutrition and Dietetics Students' Preparation for Clinical Practice Through Simulation-Based Learning Experiences

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Background

The use of Simulation-Based Learning (SBL) has increased in Nutrition and Dietetic (N&D) programs although there are limited quality SBL instruments available that have been validated and tested for reliability in N&D students preparing for clinical practice. Such instruments are essential to advance research in this area for the N&D field. N&D education programs utilize a competency-based framework to assess student learning outcomes and require students to perform specific tasks and demonstrate proficiency at a minimum level determined by the Accreditation Council for Education in Nutrition and Dietetics. Although the use of SBL is an effective tool to demonstrate competency-based learning, doing so requires validated instruments to be utilized for assessment purposes. This study aimed to develop and test the reliability of three SBL instruments for N&D students completing the Nutrition Care Process (NCP) during SBL activities.

The goal of this study was to: 1) Determine the reliability of the Nutrition Effective Learning (NEL) instrument during SBL activities with N&D students; 2) Gain perspective on how SBL impacts N&D students' understanding, preparedness, and confidence in readiness for clinical practice; 3) Advance N&D students' preparation for clinical practice through SBL activities in debriefing reflective practice.

Methods

First phase:

- Developed Nutrition Effective Learning (NEL) instrument to evaluate how SBL influences learning preparedness and confidence in readiness for clinical practice
- Developed ADIME simulation facilitator instrument (ADIME-SFI) to evaluate student competency while performing the NCP
- Modified Simulation Effectiveness Tool-Modified (SET-M) to align with nutrition language and specific skills to perform a nutrition assessment and NCP
 - Content validation by nutrition and simulation experts
- Test for reliability during SBL activities with N&D students

Procedure:

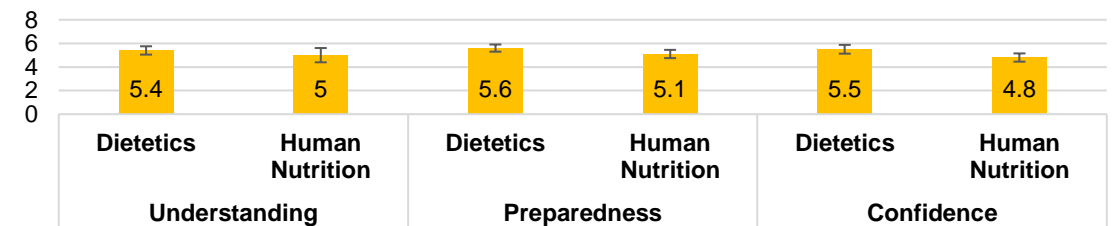
- Students completed two SBL activities that included a prebrief, standardized NCP learning activities, and a debrief
- Students were asked to complete the NEL and NSET-M instruments; simulation facilitators used the ADIME-SFI to evaluate student competency during the SBL activities
- Quantitative data was analyzed using SPSS
- The study was approved by the institution's Institutional Review Board and assigned the protocol application #IRB0005066

Results

Reliability testing determined that the three instruments can be effectively used for N&D students participating in SBL activities.

- The NEL provided perspective on learning, preparedness, and confidence. The reliability of the NEL was good in the learning construct and acceptable in preparedness and confidence constructs.
- The Nutrition Simulation Effectiveness Tool- Modified (NSET-M) was modified from the SET-M, validated for content, and tested in N&D students. The results indicate that there is some form of agreement in the four constructs measured and the reliability testing was moderate to good.
- The ADIME-SFI allowed N&D simulation facilitators the ability to evaluate student competency throughout the entirety of the NCP. The Cohen's *k* score (0.519) was interpreted as having a moderate level of agreement, and the percentage score between the two raters was 72% agreement during the initial testing. It was determined that with additional effort aimed at developing guidelines for the instrument, the reliability score would likely improve.

Group Statistics Medical Nutrition Therapy and Nutrition Assessment



Conclusions

This study supports the use of SBL in N&D students preparing for clinical practice. The development and reliability testing of SBL instruments for N&D students is an essential first step to filling research gaps and the need for more rigorous studies. The instruments from this study can be used by N&D educators using SBL in the classroom and evaluating competency of N&D students completing the NCP.



Reference List