

## Learning together: Combining Undergraduate and Graduate Learning for Practicing Physical Assessment Skills

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### **Abstract:**

The effectiveness of using undergraduate nursing students (UNS) as standardized patients for advanced practice nurses (APNs) was studied. First-semester UNS, as part of their health assessment course requirements, participated in APN students' practice and testing sessions as standardized patients for their health assessment course physical exam. Analysis of pre/post experience scores and open-ended questions demonstrated UNS perceived confidence increased in 15 of 21 areas and APN students' confidence increased in three areas. The collaborative examination process aided students in their learning of the process of the physical examination.

**Keywords:** collaboration | graduate nursing education | health assessment | standardized patient | undergraduate nursing education

### **Article:**

The physical assessment is a pillar examination for establishing a baseline of health for patients. Physical examination requires the nurse to develop technical skills and a knowledge base in order to provide evidence-based care (Jarvis, 2016). Traditionally, physical exams have been practiced on healthy student partners during the laboratory portion of courses. One area that has not been fully explored is the use of undergraduate baccalaureate nursing students (UNS) as standardized patients (SPs) for advanced practice nurse (APN) students. To evaluate the effectiveness of using UNS as SPs for APN students, school of nursing program faculty placed students in a collaborative learning environment.

### **BACKGROUND**

Patients in the acute care hospital setting are admitted with high acuity and have the potential to deteriorate quickly (Finkelman & Kenner, 2012), highlighting the need for nurses at all levels to develop assessment skills early and to have the opportunity to practice those skills throughout their education. Simulation education can allow for learning in a safe environment (Quail,

Brundage, Spitalnick, Allen, & Beilby, 2016) and provide the opportunity for repeated practice in areas faculty and/or students feel need further development. The NLN Jeffries Simulation Theory describes the context of this simulation event, focusing on the care of the recipient and the participant (Jeffries, 2016). Kolb's experiential theory supports simulated learning as a teaching methodology in that it provides the hands-on learning a student needs to thoughtfully learn a complex process such as the physical assessment (Kolb, 1984).

In addition to educational benefits, simulation has grown in its popularity for undergraduate and graduate nursing education "due to the pressure on developing quality training programs that ensure high quality clinical experiences in the context of increasing student numbers, shrinking budgets, and diminishing clinical opportunities" (Quail et al., 2016, p. 3). Simulation may be conducted with real people acting as SPs. Integrating SPs into graduate nursing education provides helpful patient encounters for greater learning in the areas of physical examination techniques and communication skills (Miller & Camacho Carr, 2016).

The purpose of this study was to evaluate the effectiveness of collaborative learning using UNS as SPs for APN students. Will the addition of the undergraduate student as SP teach the realism of clinical discovery for the APN student? Will the addition of the demonstration of examination process and appropriate technique by the experienced APN aid UNS in learning the process of the physical examination?

## **METHOD**

This study used an exploratory, comparison pretest/posttest repeated-measures design that assessed self-perceived knowledge acquisition and confidence level in performing basic physical assessment skills. A convenience sample of 69 students was used. Institutional review board approval was obtained prior to inviting participation in the study. Participation in the collaborative assessment activity over two consecutive laboratory days was a course expectation; however, the pretest and posttest were anonymous and voluntary. Demographic data and information about health care experience were collected before the collaborative activity.

### **Sample/Setting**

The participant pool included first-semester UNS ( $n = 72$ ) and first-semester APNs ( $n = 18$ ) enrolled in a health assessment course for their respective programs. The health assessment course coordinators integrated their students for one day of simulation and one day of APN testing. The UNS participated in the APN students' practice sessions as SPs on Day 1 of collaboration. The APNs practiced their full head-to-toe assessments and a health history interview during their assigned practice time. The UNS then served as APN students' SPs during their head-to-toe assessment testing session on Day 2.

Throughout the learning activity there was a ratio of two UNS to every APN student; during the testing sessions, the ratio was 1:1. No formal debriefing followed the practice or testing sessions; however, constructive feedback and reciprocal communication took place throughout the entire learning activity between the UNS, APNs, and faculty.

## Instruments

The pretest survey, administered before the collaborative activity, consisted of demographics and experience in health care, as well as a researcher-developed Likert scale questionnaire to assess participant confidence levels in performing 21 basic physical assessment skills. These skills were tested in the head-to-toe exam in both the undergraduate and graduate health assessment course. The posttest survey, administered after the activity and again three weeks into the clinical rotation, reassessed confidence level of performing the 21 assessment skills. It also asked open-ended questions to solicit feedback on the collaborative learning experience; topics included realism of the experience, the application of collaborative learning, and perception of scope of practice. Data were entered into SPSS, aggregated, and reported without participant identifiers.

Pre- and postexperience scores were analyzed with repeated-measures analysis of variance. The researchers used qualitative methods to analyze participants' responses to open-ended questions and identify patterns and themes.

## RESULTS

Participants were women and men between the ages of 20 and 49 years. The majority of UNS were ages 20 to 29 years. The APNs were spread across the three decades. Fifty-seven UNS and 12 APNs completed all surveys. The majority of the UNS (43) had less than one year of experience as health care providers. The APNs had between 1 and >15 years of experience; the majority were equally divided between 3 to 5 years, 5 to 10 years, and >15 years.

### Pretest/Posttest Differences

#### *UNS RESULTS*

An analysis of variance test was run on the three surveys for the 21 assessment variables. Of the variables measured, 15 showed statistically significant ( $p < .05$ ) improvement: edema in extremities, edema, distal pulses, abdomen, lung sounds, bowel sounds, cardiac sounds, breathing effort, muscle strength, range of motion, hearing, data collection, encourage conversation, identify a baseline, and integration of physical exam. Although confidence in performing the skills in the remaining six variables increased, the improvement was not sufficient to be statistically significant.

Confidence in 11 skills improved more with the collaborative skills labs, but less so after three weeks of clinical because there was less room for improvement. The analysis further revealed two skills (edema extremities, edema) improved with experience in clinical. No skills showed improvement in all three comparisons.

#### *APN RESULTS*

The same variables were measured for the APNs. By definition, these were students with prior nursing experience in all of these areas. Their self-reported confidence in assessment skills at baseline was high, leaving much less room for improvement. Only two variables

(abdomen/identify a baseline) showed statistically significant ( $p < .05$ ) improvement. A third variable (encourage conversation) was very close, at  $p = .055$ , and the post hoc analysis indicated the improvement was significant. Improvement for the abdomen variable showed the improvement followed the collaborative learning experience. Analysis of the other two variables (identify baseline/encourage conversation) suggested the collaborative learning experience *and* time in clinical were necessary for significant improvement.

### Qualitative Themes

Student confidence in their skills is imperative to identify patient needs and recognize physiological decline quickly. Analysis of responses identified that students liked collaborating; the two groups learned from each other, identifying new techniques for completing the exam; and their critical thinking and confidence levels increased. UNS learned more about differences in scope of practice and their role, liked learning more about clinical areas, and felt APNs modeled professional practice, which they could incorporate into their practice. Communication and interprofessional interactions were valued. The experience also provided more understanding of the patient perspective for students who may have never been a patient.

The repetitive practice on and feedback from the UNS, as SPs, provided meaningful learning of the physical assessment for APN students. Analysis of graduate student responses identified self-improvement in professional communication and collaborative behaviors, as well as adoption of their new scope of practice as key themes.

## DISCUSSION

SPs have been widely used in health care education to better prepare providers for patient interactions in clinical (Miller & Camacho Carr, 2016; Quail et al., 2016). The findings from this study showed that UNS and APN students can be placed in a collaborative learning environment with experiential learning and gain positive outcomes for learning. This experience allowed the APN students to learn physical assessment in the advanced practice role and the UNS to be mentored in approach, technique, and communication early in their curriculum.

Future research should explore traditional health assessment versus a collaborative environment and self-confidence versus actual test performance ratings. The exploration of themes from the addition of debriefing could also be explored. Limitations include the participation of students at only one school of nursing.

## CONCLUSION

The addition of UNS as SPs was realistic for the APN students. Demonstration of the examination process and appropriate technique by experienced APNs aided undergraduate students in their learning the process of the physical examination. The fact that student self-confidence was maintained at three weeks into clinical is significant. The realism from using the SP for physical assessment practice increased students' confidence with their assessment skills, allowing for continued confidence levels in the clinical setting. Exposure to more experienced

APN students provided undergraduates with valuable instruction in physical assessment and professional nursing skills.

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