

# Assessment Skill Training with the Ventriloscope® and the Need for Emergency Intervention on Medical/Surgical Units

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## Background

- The struggle to teach physical diagnosis skills has become even more difficult, despite advances in technology
- Assessment of continued competence among nursing staff related to physical assessment skills offers many of the same challenges
- The utilization of simulation along with other learning formats, such as standardized patients, offer an effective means of determining continued competency (Decker, Utterback, Thomas, Mitchell & Sportsman (2011). Such evaluation allows for an integrated evaluation of skills performance, learner satisfaction, critical thinking and self-confidence (Decker, et.al, 2011)
- The Ventriloscope® (Castilano et al, 2009) is a novel device that can place any sound wirelessly into a learner's stethoscope anywhere on a live patient or mannequin for teaching, testing, or simulation purposes
- It is proposed that learning abnormal physical exam sounds in the context of a live patient, who can also give a medical history, will be an effective way of acquiring critical auscultation skills, as opposed to standard teaching techniques (i.e. live patients with or without findings are used; sounds are learned in an abstract fashion, apart from a patient)

## Study Objectives

- To evaluate the effectiveness of an educational intervention for medical/ surgical nurses on the incidence of unit based Rapid Response Team Calls and Code Blue events on medical/surgical nursing units
  - The teaching intervention is the Ventriloscope® in combination with standardized patient actors, to teach recognition of clinically critical patients on medical/surgical floors earlier, using physical finding recognition skills
- Secondary objectives include evaluating a nurse skill set that would assist them in acting upon the critical situation, as well as effectively handling difficult work situations in order to seek proper and expedient care for their patient
  - This evaluation includes assessment of skills performance, learner satisfaction, critical thinking and self-confidence

## Hypotheses

- The incidence of Rapid Response Calls on 6NW will decline after the educational intervention with the Ventriloscope
- The incidence of Code Blue Calls on 6NW will decline after the educational intervention with the Ventriloscope
- The incidence of Rapid Response Calls on 9SW will decline after the educational intervention with the Ventriloscope
- The incidence of Code Blue Calls on 9SW will decline after the educational intervention with the Ventriloscope
- Registered Nurses participating in the educational intervention with the Ventriloscope will report a positive learning experience

## Disclosure

The study was supported by the RPH Nursing Research Council and the University of Akron, Akron, OH

## Methods

### Subjects

- Registered Nurses (RN) from two Medical/Surgical Units who were participating in a clinical competency evaluation involving simulation were invited to participate in this study
  - Telemetry/Cardiac Unit - 6NW
  - Respiratory/Burn Unit - 9SW
- A total of 33 RNs participated

### Study Intervention

- Before beginning the clinical competency, RNs received instructions about the simulation stations
  - At this time, they were informed of the option of participating in a nursing research study in conjunction with the educational intervention
    - Those interested in participating were asked to complete an eight question survey
- All RNs rotated through four stations with standardized patient actors portraying clinical scenarios
  - Myocardial infarction
  - Septic shock
  - Respiratory failure
  - Stroke
- The actors were trained to use the Ventriloscope® to play appropriate heart, vital sign, and lung sounds for their clinical condition
- The RN assessed the situation as they would on their unit and responded in a similar manner, including a mock call to a supervising nurse and/or physician
  - Communication with supervising staff and physicians included situations ranging from straightforward to difficult
- Assessments of the nurse was made of his/her actions, documentation, communication with staff, and attention to patient
- Debriefing with scenario facilitator and RN occurred after each station to provide feedback regarding their performance during the competency assessment
- After completing all four stations, nurses interested in participating in the study completed four written surveys (National League for Nursing, 2005; Reese et al, 2010)

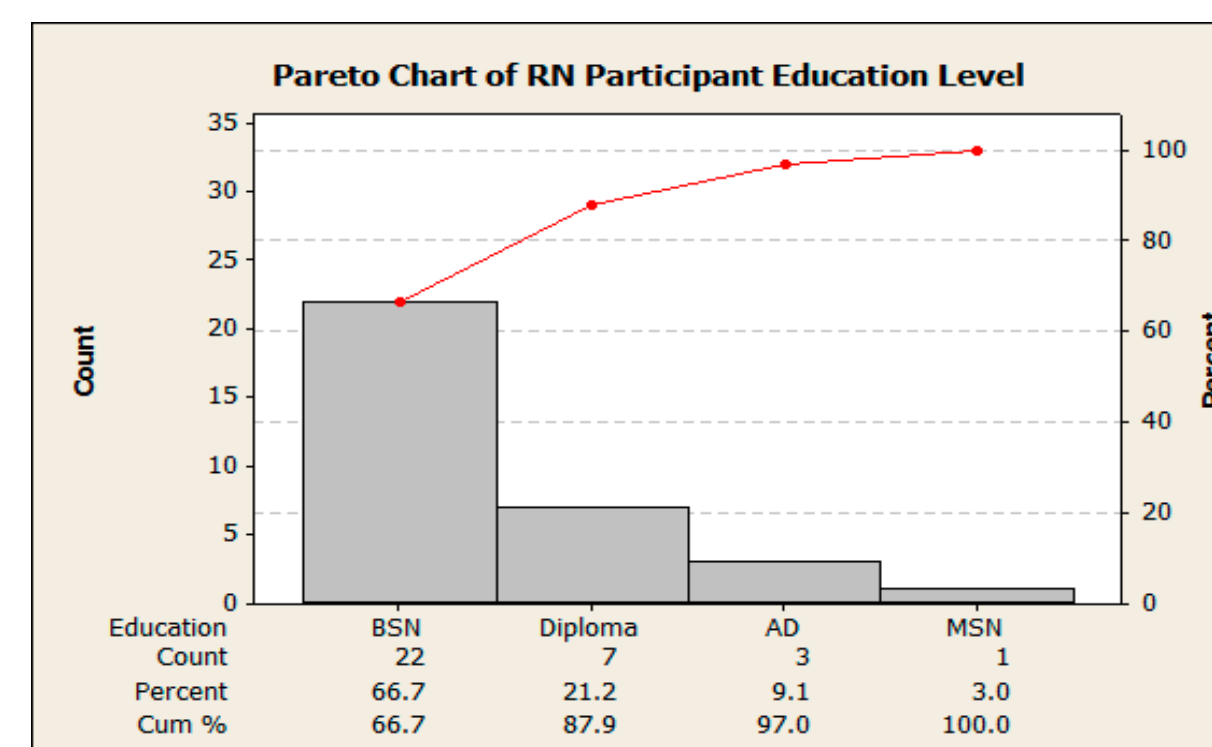
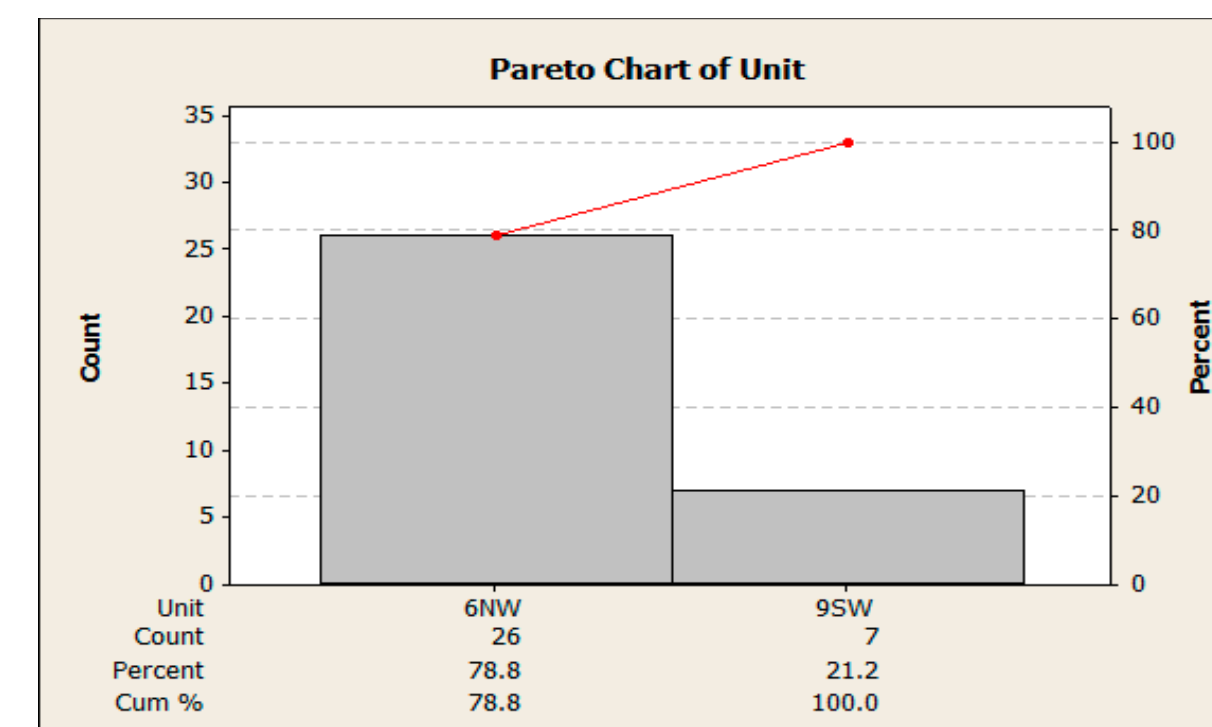
### Study Measures

- Study Pretest of Confidence, including demographic information
  - Educational Practices questionnaire
  - Satisfaction and Self Confidence in Learning instrument
  - Simulation Design Scale
  - Study Posttest of Confidence, excluding demographic information
- Study Instruments assessed both personal learning experience and the simulation training
  - A post test with the same four questions regarding confidence as the pretest were administered a second time for the purpose of comparison
  - Additionally, unit specific data regarding the incidence of Rapid Response Team and Code Team (Code Blue) calls were collected six months pre and post intervention

## Results

### Demographics

	N	Mean	St Dev	Median	Range
Experience in Nursing (months)	33	108.4	155.1	30.0	1-525
Experience on Unit (months)	33	28.79	33.61	22.0	1-144



## Findings

- Hypotheses #1-4 were rejected, as there were no significant findings among Rapid Response and Code Blue calls after the intervention
- Hypothesis #5 was accepted
  - RN participants did report a positive experience as a result of participating in the study
  - Confidence scores were significantly higher post intervention

