Improving New Graduate Nurse Competency: A Research Study to Examine the Effects of Didactic and Simulation Learning on Critical Thinking Ability—Preliminary Results

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Introduction

- New graduate nurses are expected to be clinically competent in critical thinking (CT) to solve patient problems.
- However, employers report 35% of new graduate nurses lack initial competency which may take as long as 6 months to 2 years to develop.
- Strategies to promote CT in new graduates may be effective in filling the gap between new nurse and competent new nurse.
- A quasi experimental study to examine the effects of didactic and simulation education on CT in new graduate nurses is being conducted.

This is a preliminary examination of research in progress which could contribute to the much sought-after CT knowledge base.

Method

A larger tertiary care medical center, northeast United States.

The convenience sample consisted of 27 newly employed volunteer graduate nurses from diploma, ADN, and BSN programs.

Both groups participated in a standard new graduate 6 week orientation program which included one week of classroom topics followed by hospital clinical orientation with a preceptor.

The experimental group, in addition to the standard orientation, had an additional 45 minutes class explaining nine principles of CT. Participants were given cards that contained the basic principles of critical thinking for the clinical area. One fidelity simulation of scenarios likely to be found in subjects’ practice setting is given in groups of 8. For each simulation 10 standard questions are asked during simulation to stimulate CT.

Quasi experimental pre-test/post test research design of nonequivalent groups using two cohorts, 3 months apart, participating in a hospital clinical orientation program, which includes classroom and simulation training.

Participants were given 10 cards which contained nine principles of CT and a critical thinking test to assess if the principles were understood.

Simulations were designed to mimic realistic CT to solve patient problems. Each group participated in the simulation study. Both groups participated in a standard new graduate 6 week orientation program which included one week of classroom topics followed by hospital clinical orientation with a preceptor.

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Critical Thinking Comments and Behaviors:
- Think or reframe questions. Is there another way that it can be interpreted?
- What did you do when you came to this conclusion? What were you thinking of as you made this decision?
- What do you think will be the consequences of that decision?
- What was the evidence that supported your decision?
- What is your evaluation of the information?
- What are your conclusions about the problems?
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Setting and Cohort 1 Sample (n = 27)

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Sample:
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Sample Demographics

Mean Age in Years 26.48 (SD 8.07, median 22, range 21-52)
Gender
96.3% female
Ethnicity
96.3% Caucasian, non-Hispanic
3.7% Asian/Pacific Islander
Nursing education
59.3% Bachelor’s Degree
25.9% Associate Degree
14.8% Diploma
Other College Degree
11.1% Bachelor’s Degree
Mean prior Simulation Experience in hours (n = 26)
9.68 (SD 19.13, median 5, range 0-100)
Mean prior CT training in hours (n = 25)
19.68 (SD 19.13, median 43.85, range 0-200)

Instruments


Researcher made Perception of Critical Thinking Ability Scale (n = 73, n = 26).

Discussion

In this preliminary review of the data, self-perception of CT ability only associates with having a previous college degree. Multiple degrees could mean older age, but age did not associate with self perception of CT ability. Therefore, it may be that despite the difficulties in defining and teaching CT, some learning about the process occurs in academic settings. A previous Associate Degree had greater association than a baccalaureate degree.

Examining post intervention changes in CT self perception ability and general CT ability and comparing results with a control group may help in understanding development of CT ability in clinical settings. Further analysis is necessary in this study among related demographic variables and self perception, and general CT ability.

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Conclusion

Education, as measured by degrees, was the only demographic variable that significantly associated with perceptions of CT (Spearman’s rho = .411, p = .037, n = 26).

However there was a significant correlation depending on type of other degree, Associate Degree (AD) significantly correlating with self perception of critical thinking ability (AD rho = .406, p = .04; Baccalaureate Degree (BD) rho = .113, p = .584).

No other demographic variables correlated with perception of critical thinking ability.

Participant Take-Home Points after Critical Thinking Simulation Sessions

1. “Ask questions.”
2. “When you run out of ideas, consult someone else to help.”
3. “Ask good questions.”
4. “Critical thinking is a vital part of nursing care.”
5. “Think outside the box, rule out everything, don’t just jump to conclusions.”
6. “Don’t focus on one idea when gathering and assessing data.”
7. “Be thorough with the assessment and consider all possibilities for the problem.”
8. “How little I know.”
10. “Ask for help if I don’t want to do what.”
11. “Ask the right questions. Always be thinking about what changes could mean.”
12. “Talk out loud to explore all options.”
13. “Practice, practice always.”
15. “Learning to think about all the possibilities.”
16. “Looking at the ‘big picture’—could this be something else?”
17. “The benefits of collaborating with another nurse in order to avoid missing valuable clues or overlooking pertinent data.”

Preliminary Data

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