

Evaluation of Scenario Simulation on Nursing Students' Critical Thinking Abilities and Student Satisfaction as it Relates to Learning Style

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*I hear and I forget. I see and I
remember. I do and I understand.*

(Confucius)



Introduction

- Simulation has been embraced by nurse educators in an effort to teach and empower students, and to promote critical thinking (Schoening, Sittner, & Todd, 2006)



Problem

- Lack of evaluation regarding the effectiveness of scenario simulation on nursing students' critical thinking abilities as it relates to learning styles

Purpose

- To evaluate effectiveness of a scenario simulation in enhancing students' critical thinking and satisfaction as it relates to learning styles

Research Questions

- RQ1: Does scenario simulation enhance nursing students' critical thinking abilities?
- RQ2: Does debriefing following scenario simulation enhance critical thinking?

Research Questions

- RQ3: What is student satisfaction following scenario simulation?
- RQ4: Do scores on the post-debriefing critical thinking test vary or differ by learning style?
- RQ5: Does student satisfaction differ by learning style?

Background

- Nursing education is challenged to develop teaching-learning strategies to facilitate the development of undergraduate students' critical thinking abilities (Staib, 2003; Brunt, 2005; Shin, Jung, & Kim, 2006)

Background

- Simulation is an alternative method to facilitate critical thinking skills while maintaining a safe environment (Jeffries, 2006; Schoening, Sittner, & Todd, 2006; Seybert, Kobulinsky, & McKaveney, 2008)

Background

- Simulation followed by debriefing may provide:
 - Opportunities for students to discuss what they have learned
 - Ensure that activities are not left unfinished
 - Identify what they accomplished

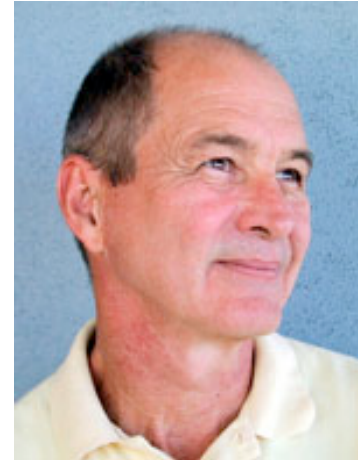
(Cantrell, 2008)

Background

- Simulation enables:
 - Experiential learning
 - Accommodates diverse learning styles
 - Allows students with varying backgrounds to benefit from the experience (Cioffi, 2001; Jeffries, 2005)

Conceptual Framework

- Kolb's Experiential Learning Theory guided the study



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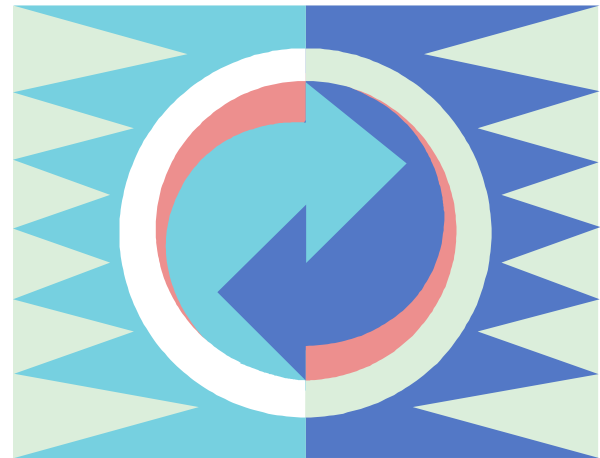
Kolb's Learning Styles

- Accommodating
- Diverging
- Converging
- Assimilating



Kolb's Learning Cycle

- Concrete experience
- Reflective observation
- Abstract conceptualization
- Active experimentation

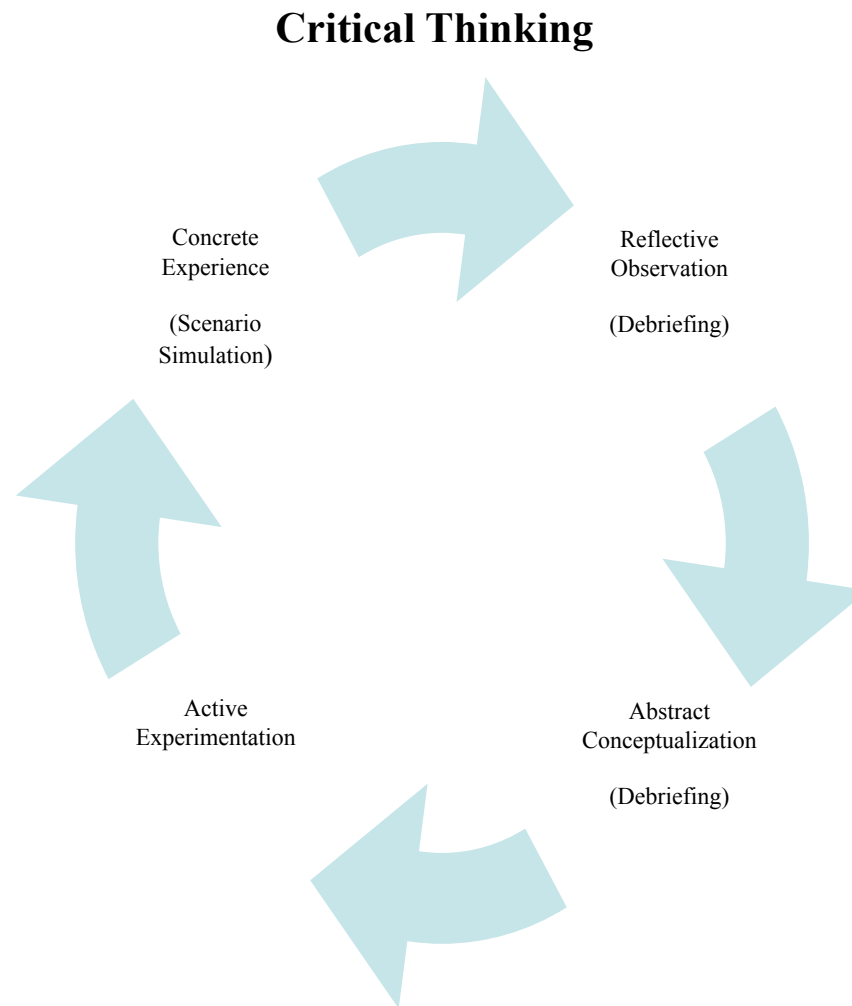


Concepts of the Study

- Scenario simulation
- Debriefing
- Critical thinking
- Evaluation



Evaluation of Experience



Literature Review – Critical Thinking

- Critical thinking has been identified as a necessary outcome of nursing education (NLNAC, 2004)

Literature Review – Scenario Simulation

- Use of scenario simulation as a teaching-learning strategy in nursing education has become increasingly popular (Haskovitz & Koop, 2004; Reilly, & Spratt, 2006; Henneman, Cunningham, Roche, & Curnin, 2007)

Literature Review – Scenario Simulation

- Use of simulation in undergraduate nursing education provides:
 - Opportunities to practice
 - Role model
 - Acquire a variety of skills in a controlled, monitored setting (Cantrell, Meakim, & Cash, 2008)

Literature Review – Debriefing

- Integral element of simulation
- Allows students to be led through a purposive discussion of the experience so they can reflect on it (Lederman, 1992; Fanning & Gaba, 2007; Lasater, 2007a)

Literature Review – Student Satisfaction

- Research studies have focused on evaluation of student satisfaction relating to innovative teaching-learning strategies

(Knight & Zhai, 1996; Feingold, Calaluce, & Kallen, 2004; Bearnson & Wiker, 2005; Parr & Sweeney, 2006; Devine Rentschler et al., 2007)

Literature Review – Learning Styles

- Knowledge of learning styles:
 - Allows faculty to communicate more efficiently
 - Can help faculty respond to a more diverse student body

(Kolb, 1984; Hauer, Straub, & Wolf, 2005; DiBartola, 2006; Burris, Kitchel, Molina, Vincent & Warner, 2008)

Methodology

- Design:
 - Descriptive
 - Pretest-posttest

- Setting:
 - Nursing skills laboratory

- Sample:
 - Junior level baccalaureate nursing students (N=83)

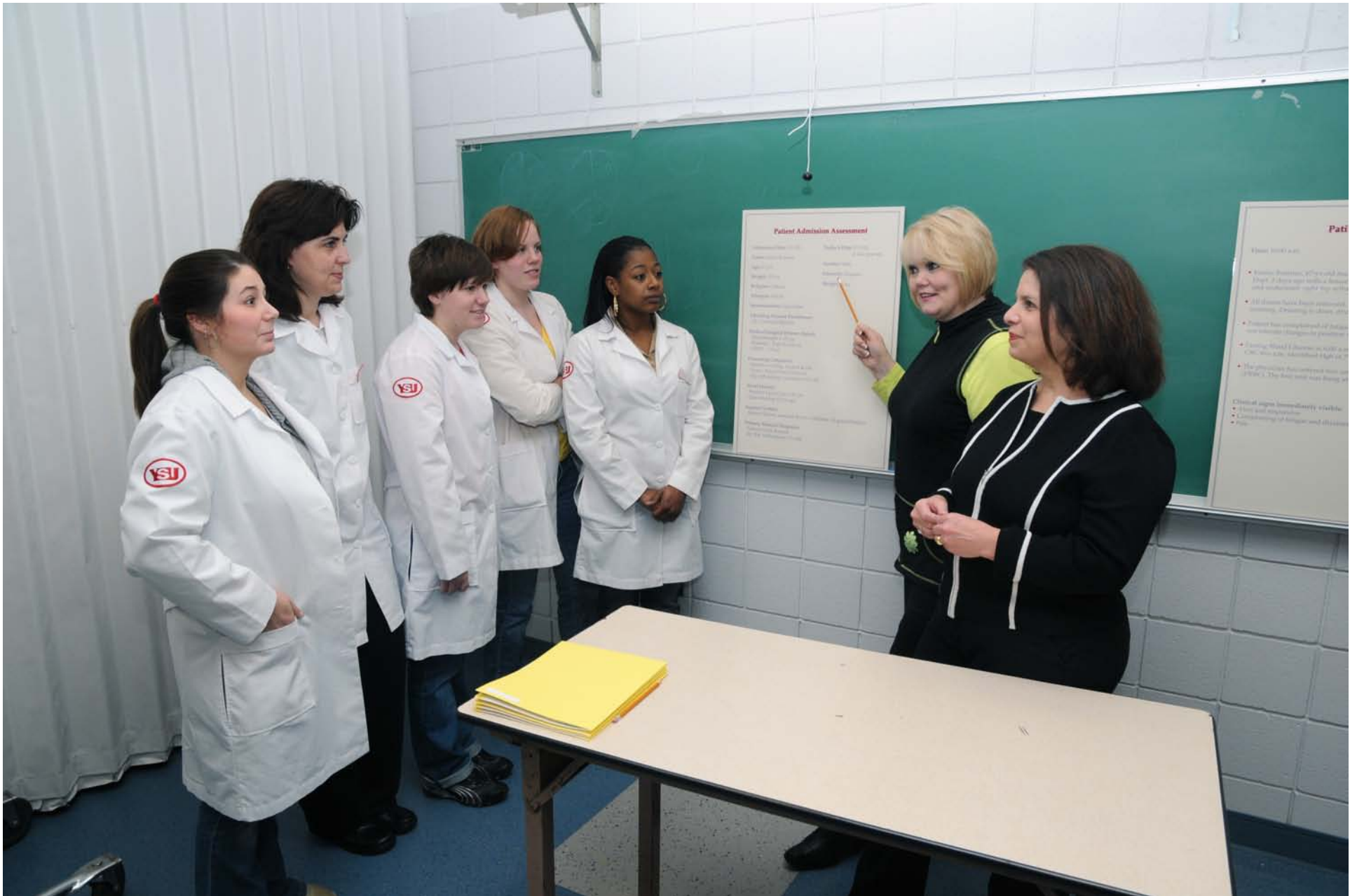
Instruments



- Demographic Data Sheet
- Background Data Sheet
- Pretest
- Simulation Posttest
- Debriefing Posttest
- METI® Simulation Effectiveness Scale©
- Kolb Learning Style Inventory©

Procedure

- Pretest
- Scenario Simulation
- Simulation Posttest
- Debriefing Session
- Debriefing Posttest
- Demographic & Background Data Sheets
- METI® Simulation Effectiveness Scale©
- Kolb Learning Style Inventory©





RQ1: Does scenario simulation enhance nursing students' critical thinking abilities?

- Pretest
- Simulation Posttest
- No statistical significance found
- $p = .256$

RQ2: Does debriefing following scenario simulation enhance critical thinking?

- Simulation Posttest
- Debriefing Posttest
- Statistical significance
- $p = .034$

RQ3: What is student satisfaction following scenario simulation?

- METI[®] Simulation Effectiveness Scale[©]
- Mean = 23.04
- Median = 23.04
- Mode = 26.00

RQ3: What is student satisfaction following scenario simulation?

Range of Mean Scores on METI ® Simulation Effectiveness Scale©

Variable	Possible Score	Mean
Question 11 (decision-making)	0-2	2.0
Question 13 (debriefing valuable)	0-2	1.99
Question 1 (thinking critically)	0-2	1.98
Question 4 (understanding medications)	0-2	1.45

RQ4: Do scores on the post-debriefing critical thinking test vary or differ by learning style?

Learning Style	<i>N</i>		Pretest	Debriefing Posttest
	<i>n</i>	%	M	M
Accommodator	19	24	11.84	11.63
Diverger	29	36.7	11.34	11.28
Converger	15	19	11.73	11.67
Assimilator	16	20.3	10.44	11.38

RQ5: Does student satisfaction differ by learning style?

Descriptives of Learning Style and Student Satisfaction

Variable	n	%	Mean
Accommodator	19	24	22.26
Diverger	29	36.7	22.41
Converger	15	19	23.33
Assimilator	16	20.3	24.25

Implications

- Scenario simulation provides consistent experiences
- Debriefing is an essential component

Limitations

- Convenience sample
- Lack of ethnic diversity
- One group pretest/posttest
- Videotaping not utilized
- Students not informed of their learning style

Recommendations

- Include a control and experimental group
- Use of videotape
- Replication at various levels within curriculum
- Replication with a more diverse student population



~ Thank You ~