

TECHNOLOGY AND REFLECTIVE PRACTICE TO DEVELOP CLINICAL JUDGMENT IN NURSING STUDENTS

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OBJECTIVE OF THE STUDY:

- Determine if exposing nursing students to clinical simulations in a nursing laboratory would allow them to be more effective when dealing with the “real world” situations they would encounter as nursing students and practicing nurses
- Evaluated by reflection/reflection template and reflective judgment tool
- Comparisons between junior and senior year student actions

KEY COMPONENTS:

- ◉ Concept of “pro-active” reflection in conjunction with traditional post-occurrence reflection
- ◉ Use of video recording to enhance students’ ability to reflect
- ◉ Utilization of clinical simulation manikin to avoid problems associated with dealing with human subjects
- ◉ Reflective judgment model--assessment

REFLECTION:

- ◉ Previous research by McKenzie, McVey and Thompson (2006,2007) and McKenzie, Bowen and Bruce (2008) indicated that reflection provides the following benefits for nursing students (as well as literature on reflection):
- ◉ *A vehicle to gain clarity and achieve better accountability and ownership in their roles*
- ◉ *Also, to resolve clinical and managerial issues that create emotional turmoil in their practice*
- ◉ *A means to more effectively transition when change occurs for them professionally*

REFLECTION, CONT:

- ◉ Maslow (1974) described similar experiences on the path to self-actualization
- ◉ “awakenings”
- ◉ Clarity moments that provide individuals with insight and to grow from the experience
- ◉ Reflection is the vehicle by which this occurs

REFLECTION (CONT):

- McKenzie, et. al., found that decisions made post reflection were more effective
 - Providing patient care
 - Educating nursing students
 - Functioning in administrative positions
 - Look back to move forward

REFLECTION (CONT):

- ◉ King and Kitchener (1994)
- ◉ Model used to determine level of development
- ◉ “reflective judgment”
- ◉ reliability and validity
- ◉ 7 stages of cognitive development
- ◉ Interested in nursing—used in other disciplines
- ◉ <http://www.reflectivejudgment.org/>

LITERATURE ON DEVELOPMENT OF CLINICAL REASONING/CRITICAL THINKING

○ Pesut et. al. (1999,2005,2009)

■ Self-Regulation and Transformative Learning

○ Reflective Self-Regulation Learning Model (SRL)

- Content, Structure, Process, Strategies—leading to Clinical Reasoning Outcomes

OPT Model (Outcome-Present State-Test)

Reflective Clinical Reasoning

Reflective Journaling

Self-Observation, self-judgment, and
metacognitive self-evaluation

LITERATURE REVIEW (CONT)

- Deschenes, et. al. (2011)
 - Script Concordance
 - Associative linkages between knowledge elements specifically adapted to different clinical tasks
 - Script concordance in conjunction with didactic methods enhanced abilities in nursing judgment (Devlin, 2008)
 - Highly appropriate for evaluating student reasoning in situations where there is uncertainty

LITERATURE REVIEW (CONT)

○ Forsberg, et. al. (2010)

- Virtual patients for assessment of clinical reasoning in nursing
- Focus on both patient care and well-being
- Evaluates both subjective and objective factors to uncover possible patterns to develop patient care strategies
- Positive responses regarding the use of virtual patients

LITERATURE REVIEW (CONT.)

◎ Harris, et. al. (2011)

- Problem based learning—small group learning process based around a clinical problem.
- Students learn best when they are able to integrate theory with clinical examples, grounded in own experiences and stimulated by an interactive learning process.

LITERATURE REVIEW (CONT.)

◎ Haffer, et. al. (1998)

- Clinical reasoning and critical thinking are basic to nursing practice
- Diversity in descriptions
- Outcome is the same—improved process to provide quality patient care and better decision making
- Actual experiences, virtual or real, or narrative pedagogy facilitates clinical reasoning and critical thinking
- Avoid experiences that add to self-doubt—importance of debriefing

DEFINITION OF REFLECTIVE JUDGMENT

- Teaching students to think critically about the complex real world problems they will face when they graduate is one of the most frequently stated goals of higher education. Almost every discipline from business to physics to sociology wants their students to be able to gather information, analyze it, synthesize it and then make some kind of judgment about it.

PRO-ACTIVE REFLECTION:

- ◉ Introduced concept of “pro-active reflection” in the pilot study prior to this one
- ◉ Reflected prior to interacting with the manikin based on the written scenario given
- ◉ Hypothesize that this approach will enhance students’ insight into solutions to problem situations
- ◉ Identify “fixations”—Decker, 2009
- ◉ Increase mindfulness with patients

PRO-ACTIVE REFLECTION:

- Prior to engaging in simulated patient situation students:
 - Proactively assess the patient dilemmas by responding to the following questions:
 - What knowledge/skills have you learned that are relevant to the situation?
 - How do you propose to use the knowledge/skills in the resolution of this situation?
 - What do you predict will be the outcome of the situation?

STUDENT EXAMPLES

- ◉ When presented with a clinical scenario, students “proactively” reflected that things would go in a “textbook” manner.
- ◉ Did not anticipate issues
- ◉ Some giggled—not for real; stopped and had them re-focus on “patient”
- ◉ Wear uniform
- ◉ Make as life like as possible—eg, draping, code situation

REFLECTIVE JUDGMENT MODEL

- ◉ Students in the junior year were in period 1 or 2—individual describes things they know as absolute and concrete.
- ◉ Period 2—Individual expresses uncertainty in things they know since knowledge is contextual and subjective
- ◉ Period 3—Individual constructs solutions based on criteria. Knowledge comes from a process of reasonable inquiry based on current evidence but is subject to re-evaluation when relevant new evidence becomes available

- Theory is that they move up the model in terms of developing reflective judgment as they acquire new knowledge and skills and are exposed to additional clinical situations

POST-OCCURRENCE REFLECTION:

- Following the simulation, students were given a reflective template and asked to reflect on what occurred by addressing the following questions:
 - What knowledge/skills did you apply to the situation?
 - What was the effect of the knowledge/skills that you applied to the resolution of the situation?
 - How did the actual outcome of the situation differ from what you predicted in your “pro-active reflection”?

VIDEO RECORDING TO ENHANCE REFLECTION:

- Bowen and Spurgeon (2002) used the Reflective Judgment model to explore the existence of this type of reasoning in pre-service teachers. The videotaping facilitated self-examination:
 - Of clinical practice
 - Aided the reflective process

VIDEO RECORDING TO AID REFLECTION:

- Students were videotaped in the lab by a person not associated with the research study as they responded to the simulation manikin and scenario
- Students were asked to respond as if they were in a real patient situation.
- After they viewed the recording and wrote the post-reflection, they were debriefed by the lab coordinator

SIMULATIONS/END OF JUNIOR YEAR

- Post lobectomy/lung cancer; developing CHF
 - 6 of 14 in Phase I allowed the patient to die
 - None of the students measured urine in the bag
 - Five called the MD and caught the “crackles”
 - Three didn’t check vitals as the scenario progressed
- When patient died, realistic role playing
- Debriefing afterward in both scenarios
- Post reflections all had a component of “never will I do this again”

SIMULATIONS/END OF SENIOR YEAR

- Diabetic, post emergency appendectomy, febrile, Intermittent PVC's; Pain; Doctor gave order for Morphine Sulfate, 10 mg IVP; 25 mg Phenergan given previously
 - All 10 gave morphine as ordered
 - 5 of 10 in Phase II allowed patient to die from overdose
 - None of the students questioned the order
 - 5 gave Narcan
 - 1 asked questions but gave Narcan anyway
 - 1 gave Narcan and left room

STRATEGIES FOR UTILIZATION

- Video mannerisms
- Pro-active reflection—anticipate outcome
- Epiphanies
- Debriefing/clinical conference—one on one
- Use of reflective judgment model
- Role model
 - Professional behavior
 - Communication
 - Behavior in a crisis
 - “reflection in action”

When issues caught by students, reinforced behavior and clinical judgment

Increased ability to think during situations

Add critical thinking exercises earlier in program and continue throughout

STRATEGIES, CONT.

○ Any clinical situation

- Learning
- Evaluation, both formative and summative
- Clarifying clinical strategies
- Use of reflection to determine clinical actions
- Assess clinical judgment
- Debriefing
- Treat as real world
- Complement to clinical facility experience

STRATEGIES, CONT.

- ◉ Design strategies around where they fit in the reflective judgment model
- ◉ All types of scenarios
- ◉ Videotaping/ debriefing critical
- ◉ Acting as real world crucial
- ◉ Design scenarios around student issues
 - Social networking sites
 - confidentiality

STRATEGIES, CONT.

- ◉ Quantify change in reflective judgment model
- ◉ Phase III and IV study, comparisons of group with additional critical thinking exercises as part of research protocol and compare with Phase I and II
- ◉ Count some simulation time as part of clinical hours

QUANTITATIVE ANALYSIS

- ◉ Information regarding the students' behavior in the simulation exercise were compared with the ATI scores in critical thinking
- ◉ Program mean for entry critical thinking=71; NWOSU juniors' mean was 71.2 (N=28)
- ◉ Program mean for exit critical thinking=73; NWOSU seniors' mean was 73.2 (N=31)
- ◉ International student scores were lower for entry—52.5 (N=1)
- ◉ Exit international student scores were lower—68.3 (N=3)
- ◉ Some students scored lower on exit than entrance—N=7

MEYERS-BRIGGS RESULTS

- 4 of 7 allowed patient to expire (N=7)
- 5 of 7 had sensing and judging in their Meyers-Briggs profile;
- all 7 had feeling;
- 4 of 7 had extroversion
- Of the students who allowed the patient to die, 3 had sensing and judging in their Meyers-Briggs profile

FURTHER EXPLORATION

- Explore explanations for lower exit than entrance critical thinking scores.

QUANTITATIVE AND QUALITATIVE ANALYSIS

- Concerning that there was not significant difference in judgment abilities
- Were unable to use reflective judgment model to compare as group felt our study was too small
- Develop own model on reflective judgment
- Utilize additional strategies identified in the literature
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