Integrating Virtual Patient Simulations into the Classroom

The SRM Model

A.J. Kleinheksel, M.Ed., Ph.D.
Director of Instructional Design
Shadow Health, Inc.

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The author of this presentation is a current employee of an educational software company that produces virtual patient simulations for health professions education.

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Learning Objectives

- Examine the Strategy-Relationship-Management (SRM) model for integrating virtual patient simulations in nursing education
- Discuss how previous and current virtual patient integration methods fit within the SRM model
- Collaborate with group members to apply the SRM model to a case study
- Discuss the application of the SRM model to future virtual patient integration
Virtual Patient Simulations

What do we know?
- Need
- Effectiveness
- Emerging technology

What don’t we know?
- Current use
- Most effective use
Research Study

- Instrument design
  - Interviews
  - Coding
  - SRM model
- VPAIN survey
  - Results
- Exploratory factor analysis
  - Adoption
  - Integration
During the coding of data for the design of the Virtual Patient Adoption and Integration in Nursing (VPAIN) survey instrument, a clear conceptual framework for the integration of virtual patient simulations emerged.

Three categories of integration decisions:
- Strategy
- Relationship
- Management
Strategy

Strategy relates to the objective or purpose identified by faculty for the use of the virtual patient simulation

Construct subdomains

- Teaching content
  - Deliver content and introduce concepts

- Applying knowledge
  - Practice new concepts and skills learned

- Assessment
  - Formative or summative measurements
Relationship

- Relationship addresses the decisions by faculty about how the virtual patient program fits among their existing curricular components and activities

- Construct subdomains
  - Replacing other clinical experiences
    - Use the virtual patient to substitute for lab or clinical hours
  - Preparing for other activities
    - Serve as a common point of reference for class discussions or labs
  - Connecting concepts
    - Demonstrate advanced concepts or content from other courses
Management

- Management relates to the functional administration of the virtual patient program

- Construct subdomains
  - Frequency
    - How often the virtual patient is assigned
  - Adapted structure
    - Creation of discussion points, worksheets, and rubrics to teach and assess objectives not delivered or assessed directly within the program
  - Grading
    - Evaluation of the virtual patient assignments with either feedback only, a pass/fail determination, or a letter or numerical score
Activity: Small Group Discussion

- Self-organized groups

- Evaluate previous integration methods
  - How did these methods map to the SRM model?
  - Were there any subdomains that were not addressed?
  - Which decisions were easy to make?
  - Which decisions were difficult?

- How could the application of the SRM model improve your future integration?
VPAIN Integration Items: Strategy

- Assigned the virtual patient as an activity with no enforced order within the other activities of an asynchronous module
- Assigned the virtual patient as an activity to teach content prior to your lecture, lab, or video instruction
- Used the virtual patient as a live, synchronous activity in your classroom or lab to demonstrate concepts
- Assigned the virtual patient after your lecture, lab, or video instruction to reinforce concepts taught
- Assigned the virtual patient as a low stakes, formative assessment to monitor or benchmark your students' current skills and abilities at the beginning or during your course
- Assigned the virtual patient as a summative assessment instrument to evaluate your students' proficiency at the conclusion of your course
- Assigned the virtual patient to assess a single targeted skill (e.g., clinical reasoning, documentation, or physical assessment techniques)
VPAIN Integration Items: Relationship

- Used time spent with the virtual patient to replace clinical hours
- Used time spent with the virtual patient to replace practicum hours
- Used time spent with the virtual patient to replace lab hours
- Assigned the virtual patient as practice to prepare for labs or off-site clinical placements
- Assigned the virtual patient as preparation for class activities (e.g., referring to students' documentation in a group discussion on documentation practices)
- Used the virtual patient to apply concepts from other classes to connect content from one course to another
- Used the virtual patient to demonstrate increasingly complex concepts
VPAINT Integration Items: Management

- Assigned the virtual patient as a regular activity (e.g., weekly)
- Created a grading rubric to assess outcomes not directly measured within the virtual patient program
- Created new student worksheets or guides for a virtual patient assignment to achieve particular outcomes
- Used the virtual patient as a way to communicate teachable moments to your students
- Graded a virtual patient assignment with a letter or numerical grade
- Graded a virtual patient assignment as pass/fail, without assigning a letter or numerical grade
- Provided only feedback for a virtual patient assignment, without assigning a grade
Activity: Case Study

- Established Health Assessment curriculum
  - Traditional semester
  - Blended delivery with 80% face-to-face and 20% online content
  - Weekly formative quizzes, end-of-semester summative assessment
  - Lab hours

- Traditional students
  - Full time enrollment
  - No work experience
  - First year of nursing program

- Asynchronous virtual patient program
  - Five patient cases
  - Simulation debriefing

- What questions about the integration process does the SRM model raise?
VPAIN Integration Factor Analysis

- **Hour Replacement**
  - Relationship: Replaced clinical/practicum/lab hours
  - Management: Feedback only

- **Intensive Integration**
  - Strategy: In-class activity, targeted assessment, enforced order of modules
  - Management: Weekly assignment, creation of grading rubrics and worksheets, letter/numerical grading

- **Leveling**
  - Strategy: Summative assessment
  - Relationship: Apply concepts across courses, connect increasingly complex concepts
  - Management: Demonstrate teachable moments

- **Preparation**
  - Strategy: Teach content prior to didactic or lab
  - Relationship: Prepare for clinical hours and class activities
  - Management: Pass/fail grading

- **Benchmarking**
  - Strategy: Formative assessment, reinforce concepts taught
Discussion

 пу Implications
     пу Practical application

 пу Questions

Let’s keep the conversation going!

aj@shadowhealth.com

https://www.linkedin.com/in/ajkleinheksel