

Integrating Virtual Patient Simulations into the Classroom



The SRM Model

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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

The SRM Model

- 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

VPAIN 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

- Implications
 - Practical application
- Questions

References

- ➔ Kleinheksel, A. J. (2015). Measuring the adoption and integration of virtual patient simulations in nursing education: An exploratory factor analysis (Unpublished doctoral dissertation). University of Florida, Gainesville, FL.

Let's keep the conversation going!



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