VIRTUAL SIMULATION IN HEALTHCARE EDUCATION

AMERITECH COLLEGE: DRAPER UTAH
Diann Martin, Phd,RN
Current Challenges Faced in Health Care Professional Education

- Increase demand for staff
- Decreasing supply of faculty in workforce
- Reduced availability of sites for clinical placements
- Increased expectations of regulators and accrediting bodies
- Growing demand for expanding content and curriculum
Teaching Soft Skills in Simulation

• How do you teach
What the Literature Tells Us

Simulation

* Learners retain more information
* Response to live situations improves
* Improves psychomotor skills
* Debriefing is an essential element
* Seen as the future for medical and Nursing education
Forms of Simulated Learning

* **High Fidelity** - Interactive robotics with programmed cases
* **Medium Fidelity** - Mannequins with attachments and clinical needs (wounds, ostomy products, IVs)
* **Low Fidelity** - Single item simulation, IV arms, pumps
* **Role Playing/Models** - Use of live actors
* **Virtual Simulation** - Interactive computerized case studies
Features of Virtual Simulation

- Video or animated clinical situation
- Assessment and interaction embedded
- Reporting and tracking
- Student controlled
- Branching logic
- Multiple characters
- Multiple settings
Example Content for Virtual Simulation

Clinical Cases
- Maternal Child
- Mental Health
- Medical Surgical
- Trauma
- Pediatrics

Soft Skills
- Communication
- Leadership

Wellness and Self Care
Why Adopt Virtual Simulation in the Classroom?

* Consistency
* Standardized assessments
* Effective use of faculty time
* Repeatability
* No clinical risk
* Less up-front investment
* Technical skills not required
TYPES OF SIMULATION

- Second Life
- Priority Setting
Virtual Simulation Demonstration

- Clinical Reasoning Scenarios
- Soft Skills Training in Nursing
- Knowing Learning Styles
Recommendations for Use of Virtual Simulation

- Infrequent or unreliable clinical experiences
- Clinical that requires precise sequence of actions
- Experiences with interaction and collaboration
- When debriefing and repeated review would:
  - Improve retention of knowledge
  - Support reflective learning
What Simulation Offers

- Experience failure or in a safe environment
- Manage risk in preparation for actual clinical practice
- How much simulation can be used to replace clinical experience?
Simulated Learning vs. Traditional Classroom Learning

* **Classroom**
  * Conceptual in nature
  * Good for conveying fact based information
  * Labor and time intensive
  * Experience is a function of the faculty member
  * Minimal student engagement in process in some formats

* **Simulation**
  * Hands-on experience
  * Appeals to various forms of learning style
  * Repeatable
  * Learner actively engaged
  * Requires clinical reasoning and application of knowledge and skill
Benefits of Virtual Simulation

* May be used to substitute or make up clinical time in nursing and other disciplines

* Supports timely and prudent use of internal resources

* Facilitates student confidence and engages student in experience

* Supports development of clinical judgment and clinical reasoning

* Promotes use of state of the art instructional strategies

* Provides administrators with measure of student achievement
Next Steps for Virtual Simulation

* NCSBN Study of Impact on Clinical Outcomes based on use of Virtual Simulation
* State Boards of Various Disciplines across the US are considering regulations
* Active Development and Entry to Market of Products
* Increase Formality of Training, Credentialing and Faculty Development in Healthcare Professional Programs
* Potential for integration into NCLEX testing
REFERENCES

OTHER SOURCES OF SIMULATION INFORMATION

* The Society for Simulation in Healthcare:
  * http://ssih.org/

* The Center for Medical Simulation
  * http://www.harvardmedsim.org/