Where's My Flying Car? Nursing Education in the 21st Century

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How to combine High-fidelity Human Patient Simulation, 3D Virtual Reality Displays, Live Action Role Playing (L.A.R.P.ing) with creative collaborative projects to engage learners. Students collaborate in the research, creation, and presentation of simulation scenarios. Case study presentations created by the students utilize multimedia, 3D VR, and simulation.

1. Introduction:
    a. Value of simulation vs. actual patient care
    b. Purpose of education
    c. How High the Fi?
    d. Pretend: creating a world from scratch
    e. Real-world, real students

2. Problem:
    a. Getting students to see the big picture of patient care
    b. Getting students to pay attention to the details
    c. Dunning-Kruger effect
    d. Preventing "overwhelm"
    e. Making simulation and nursing less mysterious

3. What matters in education? Doing is what matters. (HWI tm)
    a. Culture of Safety Training
    b. Safety and CRM mitigating human error
    c. Doing vs. Thinking

4. What is the purpose of ~~education~~ the brain?
    a. Sensation
        i. Visual Cortex
        ii. Auditory Cortex
        iii. Parietal Cortex
        iv. TPO and perception
    b. Movement in the brain
        i. Motor Cortex
        ii. Synapses that fire together…
        iii. Mirror Neurons

c. Making the right move before we decide to make the right move.
    i. Brain activity prior to decisions
    ii. Moving at the right time
    iii. Moving in the right context
d. Cognition
    i. Manufacturing a model of reality
    ii. Testing the model (EBP)
    iii. Updating the model
e. Role of “mirror neurons” in learning
    i. Mirror neurons in action
    ii. Mirror neurons in **empathy** (“Beholders Share”)
f. Role of the Anterior Cingulate Cortex and errors

5. What is the point of ~~simulation~~ Play?
    a. Csikszentmihalyi (1981) described play as "a subset of life..., an arrangement in which one can practice behavior without dreading its consequences"
    b. Piaget (1962) defined play as assimilation, or the child's efforts to make environmental stimuli match his or her own concepts.
    c. The value of LARPing and applying that to learning

6. Building the simulation experience from scratch
    a. Clinical patient experience
    b. Textbook patient data
    c. Information from clinical site
        i. Medical record format
        ii. Protocols and orders
    d. Converting pathophysiology to states of simulation

7. How high the Fi
    a. Benefit of high vs low fidelity
    b. When high Fi matters
    c. Percent of disengaged learners in simulation
    d. Use of 3d displays of anatomy
    e. Technology versus engagement

8. Learners creating simulation from scratch
    a. Rules of play
    b. Creating opportunities for empathy
        i. Role of the patient/family
        ii. Role of the physician provider(s)
            1. Receiving telephone report

        2. Giving telephone orders
    iii. Role of helper
c. Collaborative careplan
    i. Pathophysiology explained at 6th grade level
    ii. Pharmacology " "
    iii. Patient teaching plan
d. Meta-lesson from Simulation Project
    i. Collaboration
    ii. Leadership
    iii. Communication
e. Reward
    i. Grade
    ii. Opportunity to facilitate simulation for peers

9. Conclusion: Real-world student experience
    a. Beginning Medical Surgical (MS) nursing students have the capacity to create simulation scenarios when given guidance and time.
    b. Beginning MS nursing students are often digital natives and not as impressed with technology as older non-digital natives.
    c. Value of simulation creation:
        i. Research and documenting
            1. Medications
            2. Lab Values
            3. Pathophysiology
            4. Nursing interventions
            5. Leadership and collaboration