Creating an Interactive Health Science Program with Wearable Simulators

What we will discuss today

- About Realityworks
- Who is today's student?
- Teaching Generation Z
- DIY wearable simulators you can make yourself
- Walking in the shoes... wearable stations
- Best practices and Q&A
- Additional resources
About Realityworks

- DISTRIBUTION INTO EDUCATION
  - 62% of school districts in the U.S.
  - 90 countries worldwide
  - 31,000 institutions
  - 6,000,000 students served through the use of our products

- EDUCATION PARTNER
  - Association for Career and Technical Education Board (NACTE)
  - Chair of Industry Workforce Needs Coalition (IWNC)
  - National Association of Agriculture Educators Member (NAAE)
  - 100+ education trade shows (local, state, national)

- EDUCATIONAL FOCUS
  - Interactive Learning Aids and Curriculum

Innovative Learning Tools for Skills Training

FACS | Health Sciences | Agriculture | Welding and Trade Skills

Who is today’s student?
The Face of CTE: Who are our Students?

Generation Z
- Born between 1995 and 2010
- Tech savvy
  - Multitasking
  - 8 second attention span
Teaching Generation Z

How They View Educators?
• No longer experts
• Facilitators or guides

It’s about the Experience
• Students read less than 20% of text
• Future focused
  – Where will I use this in real life?
Teaching Generation Z

- Keep content small
- Information across multiple modalities
- Be flexible

"There aren’t any lines on this. It’s a chalk board."

Don’t Forget the Soft Skills!

- Empathy
- Communication
- Teamwork
- Dealing With Pressure
- Strong Work Ethic
- Positive Mental Attitude
- Flexibility
- Time Management
- Self-Confidence
- Dealing With Criticism

Research and Benefits of Wearable Simulation Experiences
Effectiveness of Simulation

Simulation has demonstrated effectiveness as a method to train practicing nurses for new procedures, communication processes, and both skill based and non-skill based techniques.


Simulation to Teach Empathy

A narrative synthesis suggests that simulation may be an appropriate method to teach empathy to preservice health professional students and identifies the value of the learner taking the role of the patient.


Wearable Simulators Teach Empathy

83% of participants were able to empathize with life in old age very well after participating in age simulation suit experience.

95% of participants had better understanding of the physical conditions of aging after participating in an age simulation suit experience.

Wearable Simulators Teach Skills

- Using a wearable IV catheter insertion device, equaled the nursing procedural education found in a sim lab but increased interpersonal skills
- A wearable tracheostomy simulator was used, and they were able to learn skills used in clinical practice while developing communication skills

DIY Wearable Simulators You Can Make Yourself

- Cheap plastic glasses with Vasoline or soap
- Sunglasses
- Glasses with the wrong prescription
- Sleep mask

Visual Impairment
Arthritis in Hands and Feet

- Taping fingers together
- Popcorn kernels in socks
- Popcorn kernels in gloves

Loss of Tactile Sensation

- Thin gloves or even glove liners
- Thick gloves like work gloves

Hearing Impairment

- Ear plugs
- Noise canceling headphones
COPD and Emphysema

- Breathe through a straw
- Use a compression binder (similar to those used post-surgery)

Aging

- Weight vest
- Ankle & wrist weights
- Ace bandages
- Back braces
- Canes and walkers

Hemiparesis/Stroke

- Leg brace
- Ace bandages
- Eye patch
- Sling
- Cane
Pregnancy

- Backpack worn backwards filled with 25-30 pounds
- Hot water bottle or beachball filled with warm water held in a sling

Breastfeeding Simulator

- Use a bra, cut a hole in the nipple areas
- Add nipple shields into the holes

Incontinence Simulation Experience

- Give each student an adult diaper
- Pour a small cup of water into it
- Have students wear it an entire class period
Best Practices for Using Wearable Simulators

Best Practices

Tips:
- Encourage group interactions whenever possible
- Set up stations to rotate through
- Consider role assignments of Caregiver and Patient
- Provide opportunities for post-simulation reflection

Tips:
- Provide opportunities for post-simulation reflection
- Journaling exercises
- Pre and post-simulation activity
Take Time to Reflect

• How did it go?
• How did you feel during this experience?
• How can you make this a good experience for your patient?

Best Practices

• Tips:
  – Use the wearables in a scenario
    • Teach nursing skills
    • Teach empathy, communication and other soft skills

Walking in the Shoes – Wearable Simulators You Can Try
Wearables That Teach Empathy

Wearable Simulators to Teach Empathy
- Geriatric Simulator with Visual Impairment Glasses
- Hearing Impairment Simulator
- Tremor Simulator
- Arthritis Simulator
- Hemiplegia Simulator
- Geriatric Medication Management Kit
- Pregnancy Profile Simulator

Wearables That Teach Skills
Wearable Simulators to Teach Nursing Skills

- Blood Pressure Simulator
- Small Injection Pad
- Ivy IV Administration Trainer
- Venous Venipuncture & IV Administration Trainer
- Forearm Venipuncture Trainer
- Geriatric Skin Conditions Kit
- Pressure Injury Kit

For more information please contact Realityworks, Inc. through email at information@realityworks.com or call toll free at 800.830.1416