Case-Based Learning: Interactive Learning through Integrated E-Module Technology

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Introductions

• **Session type**: Focused Discussion

• **Area of focus**: Integrating Technology into the Learning Experience

• **Presenters**:  
  • Shaun Grammer, M.S., PA-C  
  • Annie Wildermuth, MMS, PA-C, EM CAQ, RD  
  • Shaun Horak, DMSc, PA-C
Objectives

• Describe the components of an e-learning module.
• Discuss implementation strategies for e-learning in a PA program curriculum.
• Describe cost-effective strategies to development of interactive e-learning modules.
• Describe the steps to developing an e-learning module.
Overview

What is an e-module?

10 – 15 minute e-learning platform that has no more than one or two learning concepts and incorporates a blend of teaching and assessment tools that may include video clips, direct instruction, gaming elements and social media.
E-Learning Module Construction Tips

- Include learning objectives
- Frequent quizzing or interactive learning checks
- Short & chunked
- Proceeds logically with clear instructions
- Visually appealing
- ADA compliant
- References & citations
E-learning Scorecard

• Available online – UNMC E-learning Lab (unmc.edu/elearning)
• Assesses:
  • Method & practice of education
  • Instructional design
Accessibility

• Audio & video should have transcript & closed-captioning
• All pictures, charts, graphs should have text description
• Content contains actual text
• Multiple methods used to convey information
• Links use descriptive text
  • unmc.edu/elearning ←Good  ←This is correct
  • Click Here ←Poor
UNMC PA E-Module Utilization

**Type 1**: Traditional and self-directed
- Accessible online
- Self-paced, completed independently
- Examples: Interviewer training, specific clinical competency

**Type 2**: Interactive and facilitated
- Link provided
- Paced with instruction
- Example: Problem-Based Learning (PBL)
Traditional & Self-Directed: Interviewer Training

Welcome! I’m Gloria, a physician assistant. I’ll be your host today as we discuss UNMC’s admissions, multiple mini-interviews, and bias awareness.

UNMC PA transitioned to MMI because we desired:
- Increased student retention
- A more inclusive learning environment
- Increased class diversity
- Increased student resilience & flexibility
- Reduced professionalism issues
Chief Complaint (CC):

“I don’t know what happened”

Nurse/MA Note:
A 61-year-old female is brought to the emergency department by EMS after a fall. She reports she was standing at her kitchen sink when she got lightheaded. The next thing she remembers was lying on the floor. Fortunately she had her cell phone in her pocket, and she was able to call for help.

Establish a broad differential diagnosis.

- Vasovagal syncope
- Cardiogenic syncope
- Seizure
- Subdural hematoma

Click a System to See Results
- Vitals
- General
- Skin

Click Here to Reset

Eyes: PERIS. EOMs intact and painless. Funduscopic exam shows present red reflex....interpret the rest
PBL E-module Integration

- Traditional, paper word-document cases
- Development of an e-module PBL template
- Merged traditional with e-module
- Strung together “chunks” of case (HPI, differential, etc.)
- With faculty facilitation, students complete e-module PBL
Problem Solving Case #5
Cardiology
Student Copy

Subjective:

Chief Complaint (CC): “I have a cough.”

Initial History of Present Illness (HPI): Patient is a 59 -year old male presenting to the clinic today with the main complaint of a cough. The patient is accompanied by his wife and states that it is at his wife’s urging that he has come in today. Patient states he’s been bothered by a cough for the last several months and has recently experienced some shortness of breath.

Stop and answer the following:
1. Record the initial facts of the case.

2. Create a differential diagnosis

3. Using the chart below, list your initial HPI questions related to your differential.

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<th>Differential Di.</th>
<th>Key Question</th>
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The U.S. Healthcare System & Healthcare Reform: A Primer for the Health Professions Student

Developed by: Kyle Meyer, Ph.D.
UNMC College of Allied Health Professions

ESTIMATED TIME: 75 Minutes

START

DIRECTIONS
Select each colored box to learn more, then select the next arrow to continue.

To navigate the module:
- Listen/read directions below title of each slide for instruction
- Wait for audio narration to complete before exiting slide
- Look for icons on slide for additional exploration

Additional Information (Hover or Click to Access)

Side Bar Menu Icon (Click to Access)
Side Bar includes access to Landscape and Home Menu

Next/Continue Button
Modules

MAIN MENU
This is a five-part series that should be completed in sequence. Part One must be completed first, after the Entrance Survey is finished. Quiz Results and Exit Survey will unlock after 1-5 have been visited.

Entrance Survey

Part One:
The U.S. Healthcare System Landscape

Part Two:
A Brief History – Major U.S. Healthcare Reforms 1920s - 1950s

Part Three:
A Brief History – Major U.S. Healthcare Reforms 1960s-1970s

Part Four:
A Brief History - Major U.S. Healthcare Reforms 1980s - 1990s

Part Five:
A Brief History - Major U.S. Healthcare Reforms 2000s-2020s

Parts 1-5 Quiz Results

Exit Survey
Healthcare Reform
PART ONE: QUESTION #1

In a free or open market economy, prices for goods and services are determined by which of the following:

- demand, supply and consumer choice.
- survey responses according to Facebook.
- individual preferences.
E-Learning Resources

Software

- UNMC E-Learning Lab
- Instructional Design & Technology Experts
- Subject Matter Experts
- E-Learning Support Team
- Laptops for checkout
- Wacom Tablet
- Cameras & mics
- Whisper Room - record narration
Development: Cost & logistics

PLANNING

IMPLEMENTATION

REVISIONS
Planning

- Available Technology
- Cost
- Faculty Interest and Expertise
- Curriculum Development
Implementation

- Template Design
- Case Content
- Multimedia Resources
- Time Requirements
- Faculty Training
- Delivery to Students
Revisions

Student and Faculty Evaluations

Course Assessment Data

Modifications and Revisions
Conclusion

• E-Learning Module

• **Type 1**: Traditional and self-directed

• **Type 2**: Interactive and facilitated


