Click Here! E-Learning Modules for Innovative Instruction and Learning

Nicole M. Sleddens  
*University of Nebraska Medical Center*, nicole.sleddens@unmc.edu

Betsy J. Becker  
*University of Nebraska Medical Center*, betsyj.becker@unmc.edu

Sara E. Bills  
*University of Nebraska Medical Center*, sara.bills@unmc.edu

Follow this and additional works at: [https://digitalcommons.unmc.edu/cahp_pt_pres](https://digitalcommons.unmc.edu/cahp_pt_pres)  
Part of the [Physical Therapy Commons](https://digitalcommons.unmc.edu/cahp_pt_pres)

**Recommended Citation**  
[https://digitalcommons.unmc.edu/cahp_pt_pres/10](https://digitalcommons.unmc.edu/cahp_pt_pres/10)

This Conference Proceeding is brought to you for free and open access by the Physical Therapy at DigitalCommons@UNMC. It has been accepted for inclusion in Posters and Presentations: Physical Therapy by an authorized administrator of DigitalCommons@UNMC. For more information, please contact [digitalcommons@unmc.edu](mailto:digitalcommons@unmc.edu).
Click Here!
E-Learning Modules for Innovative Instruction and Learning

Handout of presentation available at:
http://digitalcommons.unmc.edu/cahp_pt_pres/10/
Faculty Presenters

Nikki Sleddens, PT, MPT, CEEAA
UNMC Assistant Professor
Director of Clinical Education
Nicole.Sleddens@unmc.edu

Betsy J. Becker, PT, DPT, CLT-LANA
UNMC Assistant Professor
Curriculum Committee Chair
BetsyJ.Becker@unmc.edu

Sara Bills, PT, DPT, GCS
UNMC Assistant Professor
Admissions Chair
Sara.Bills@unmc.edu

The presenters have no financial disclosures that would be a potential conflict of interest with this presentation.
Acknowledgements

Objectives

1. Review the evidence related to the use of eLearning modules to promote learning.
2. Outline a plan for eLearning module creation.
3. Identify resources for eLearning module development.
4. Explain options for evaluating effectiveness modules.
What does the evidence show?

Background & Evidence

Background & Evidence

• no study reported negative impacts of e-Learning.
• enhance their understanding of the material
• performed slightly higher on the practical exam, but not all findings were statistically significant


Background & Evidence

- flexibility
- convenience
- study at own pace
- adapt to different learning styles
- assist with technology skills

Cottrell & Donaldson, 2013; Glogowska, Young, Lockyer, & Moule, 2011, Van Duijn, 2014
Background & Evidence

“faculty must identify and understand the learning preferences of millennials”
- Robb, 2014

Engelhard & Seo, 2015

“CIs were able to maintain best practices using just-in-time education, distributed clinical practice and reflection.”
~Engelhard & Seo, 2015
The 5 Steps

1. Define your topic
2. Build your team
3. Create content
4. Conduct Review
5. Implement & Gather outcomes

Define Your Project

- CHOOSE YOUR TOPIC
- DEFINE AUDIENCE
- DETERMINE LEARNING OBJECTIVES
- DETERMINE ASSESSMENT METHOD
Define Your Project:
**Choose Your Topic**

- Foundational knowledge
- Challenging content
- Learning domain

Define Your Project:
**Define Your Audience**

- Students, CIs, new faculty
- PTs, PTAs only or interprofessional
- Local vs. national
Define Your Project: 

**Determine Learning Objectives**

- Clearly state
- Follow verb recommendations
- Make sure they are achievable

**Objectives**

- Contrast how waves transmit through different materials in the human body
- Apply knowledge of wave transmission to abnormal findings of fremitus and percussion
- Practice a differential diagnosis of shortness of breath using fremitus and percussion findings

Length: 15 minutes
Define Your Project:

**Determine Assessment Method**

- Formative vs. Summative
- Dependent on purpose

Build Your Team

- MEMBERS
Build Your Team: Members could include

- Director (you)
- Content expert
- Instructional designer/e-learning expert
- Software developers/engineers
- IT support
- Students
- Peer reviewer

What do you think?

**Question 1**
What are two topics you can think of that you would like to make into an e-learning module?

**Question 2**
Who would you need on your team to help develop the module?
Create Content

- CHOOSE SOFTWARE
- CHOOSE IMAGES
- GATHER EQUIPMENT
- CONTACT TALENT
- CONSIDER INSTRUCTIONAL DESIGN GUIDELINES
- FOLLOW ADA GUIDELINES
- EDUCATIONAL RESOURCES

Choose Software needed

<table>
<thead>
<tr>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearly free</td>
</tr>
<tr>
<td>&lt;$200</td>
</tr>
<tr>
<td>$600-$1800</td>
</tr>
</tbody>
</table>
Create Content
Choose Software needed

Difficulty
Easy
Moderate
Hard

Interactivity
Almost none
Something
High
### Create Content
#### Choose Software needed

<table>
<thead>
<tr>
<th>Software</th>
<th>Cost</th>
<th>Difficulty</th>
<th>Interactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerPoint</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Mix</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISpring</td>
<td>$$$</td>
<td>🛠️🛠️</td>
<td>🏃🏃🏃</td>
</tr>
<tr>
<td>Imovie and Garage Band</td>
<td>$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Software</th>
<th>Cost</th>
<th>Difficulty</th>
<th>Interactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>VideoScribe</td>
<td>$$</td>
<td>🛠️🛠️</td>
<td></td>
</tr>
<tr>
<td>Articulate Storyline</td>
<td>$$$</td>
<td>🛠️🛠️</td>
<td>🏃🏃🏃</td>
</tr>
<tr>
<td>Articulate Studio</td>
<td>$$$</td>
<td>🛠️🛠️</td>
<td>🏃🏃🏃</td>
</tr>
<tr>
<td>Camtasia</td>
<td>$$</td>
<td>🛠️🛠️</td>
<td>🏃🏃🏃</td>
</tr>
</tbody>
</table>
PowerPoint

Voice over Power Point converted into video

- Narrate slides through audio but no editing capabilities
- Useful for delivering small amounts of content

Office Mix

PPT plus interactive features & editing capabilities.

- Narrate slides through audio
- Add webcam recording for narration
- Embed video such as YouTube videos
- Insert quizzes and polls
- Obtain assessments and reports such as quiz results and engagement levels
**iSpring Suite**

**Robust PPT – allows creation of professional-looking e-learning modules through PPT**

- Video lectures by synchronizing narration w/ slides
- Interactive assessments with rich media, video, drag and drops, branching and flexible scoring
- Screen recording-no 3rd party needed
- Dialogue simulations to develop conversation skills
- Ready-made templates for creating 3D books, timelines, references, glossaries, catalogs

**Video Scribe**

**Whiteboard style animation video**

- Delivers content in engaging manner
- Able to stand alone or embed into other software
- Add images, text, music, voice over to canvas.
- Site does have library of images and soundtracks or you can upload your own.
iMovie
Video editing software by Apple for Mac and iOS; Moviemaker is the Windows equivalent.
- Combine text, images, audio, and video clips into a video
- Video can stand alone or embed into another software

GarageBand
music creation studio inside Mac and iOS where you can learn, play, record, create, and share music creation
- Includes software instruments, preset guitar and voice, and virtual session drummer
Articulate Studio

Presentation based elearning software, transforming PPT into an online format

- Articulate presenter to create, narrate, and annotate elearning content in powerpoint
- Articulate quizmaker to add quizzes and surveys
- Articulate engage to add media rich interactions
- Articulate replay to record screencasts with webcam

Articulate Storyline

Interactive (vs. presentation) based e-learning software that can create a media rich, highly interactive, immersive environment

- Learner driven
- Build any interaction you can think of
- Click or hover over any object
- Utilizes buttons, sliders, markers, and hotspots
Camtasia Studio

Screencast software with editing tools, animations, and effects.

- Zooming features, call outs, hotspots, quizzes,
- Precise capture window
- Webcam capabilities

What do you think now?

Which software would be most practical considering the learning objectives, your skill set and resources available?
3. Create Content
Choose Images

- pixabay
- OPEN i
- NIH IMAGE GALLERY
- iStock by Getty Images
- PublicDomainPictures.net

http://unmc.edu/learning/resource-center/project-development/images.html

Author: Blausen Medical, Inc – License: CC Attribution 3.0 Unported
If you have funding, set aside money for pictures.

3

Create Content
Gather Equipment

- Cameras
- Microphones
- Professional lighting
- Tripods
- Laptops
- Tablets
Create Content

Contact Talent

- Actors
- Models
- Voice talent
- Videographers

Create Content

Instructional Design Guidelines

- Volume and length appropriate
- Design layout is effective and organized logically
Interactive learning elements are utilized

Design engages the learner by capturing and sustaining attention

Navigation instructions are explicit and consistently provided

Click “Next” to try another pathology.
Create Content
Instructional Design Guidelines

3

Follow ADA Guidelines

ADA Guidelines
Conduct Reviews

- Peer & Student Reviews
- Utilize rubric to guide feedback

Conduct Reviews Rubric

Method & Practice of Education

Instructional Design
Implement

- PILOT
- MEASURE OUTCOMES

Determine timing
Select people
Implement Measure Outcomes

Learning Effectiveness

- Exam Scores
- Lab Practical Pass Rates
- Lab Practical Item Retakes
- Student report of outside resources utilized
- Confidence of students in skills

CONFIDENCE

*My confidence as of today in measuring ROM of the upper extremity.*

0 - not confident
10 – extremely confident
**CONFIDENCE**

*Q1. Multiple choice question about topic*

*Q1a. Confidence rating*

A. I’m Positive
B. Pretty Sure
C. No Clue
Implement

**Measure Outcomes**

- Learning Effectiveness
- Access & Flexibility of Learning Material
- Student Satisfaction

---

**Sample questions**

1. The modules helped me learn.
2. The amount of interactivity was appropriate
3. I want access beyond this semester
4. Focus Groups – qualitative analysis

**Student Satisfaction**
Implement Measure Outcomes

- Learning Effectiveness
- Access & Flexibility of Learning Material
- Student Satisfaction
- Cost Effectiveness
- Faculty Satisfaction
Review of the 5 steps

1. Define your topic
2. Build your team
3. Create content
4. Conduct Review
5. Implement & Gather outcomes

Resources
Websites for Software

<table>
<thead>
<tr>
<th>Software</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS Office PPT Mix</td>
<td><a href="https://mix.office.com/en-us/Home">https://mix.office.com/en-us/Home</a></td>
</tr>
<tr>
<td>(not available for MAC)</td>
<td></td>
</tr>
<tr>
<td>iSpring</td>
<td><a href="http://www.ispringsolutions.com/ispring-suite">http://www.ispringsolutions.com/ispring-suite</a></td>
</tr>
<tr>
<td>VideoScribe</td>
<td><a href="http://www.videoscribe.co/">http://www.videoscribe.co/</a></td>
</tr>
<tr>
<td>iMovie</td>
<td><a href="http://www.apple.com/mac/imovie/">http://www.apple.com/mac/imovie/</a></td>
</tr>
<tr>
<td>Camtasia</td>
<td><a href="https://www.techsmith.com/camtasia.html?gclid=CJv87pe25M4CFQmraQodWh8DuA">https://www.techsmith.com/camtasia.html?gclid=CJv87pe25M4CFQmraQodWh8DuA</a></td>
</tr>
</tbody>
</table>

Educational Resources

References


---

Nikki Sleddens, PT, MPT, CEEAA
UNMC Assistant Professor
Director of Clinical Education
Nicole.Sleddens@unmc.edu

Betsy J. Becker, PT, DPT, CLT-LANA
UNMC Assistant Professor
Curriculum Committee Chair
BetsyJ.Becker@unmc.edu

Sara Bills, PT, DPT, GCS
UNMC Assistant Professor
Admissions Chair
Sara.Bills@unmc.edu

Thank you!!!!