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

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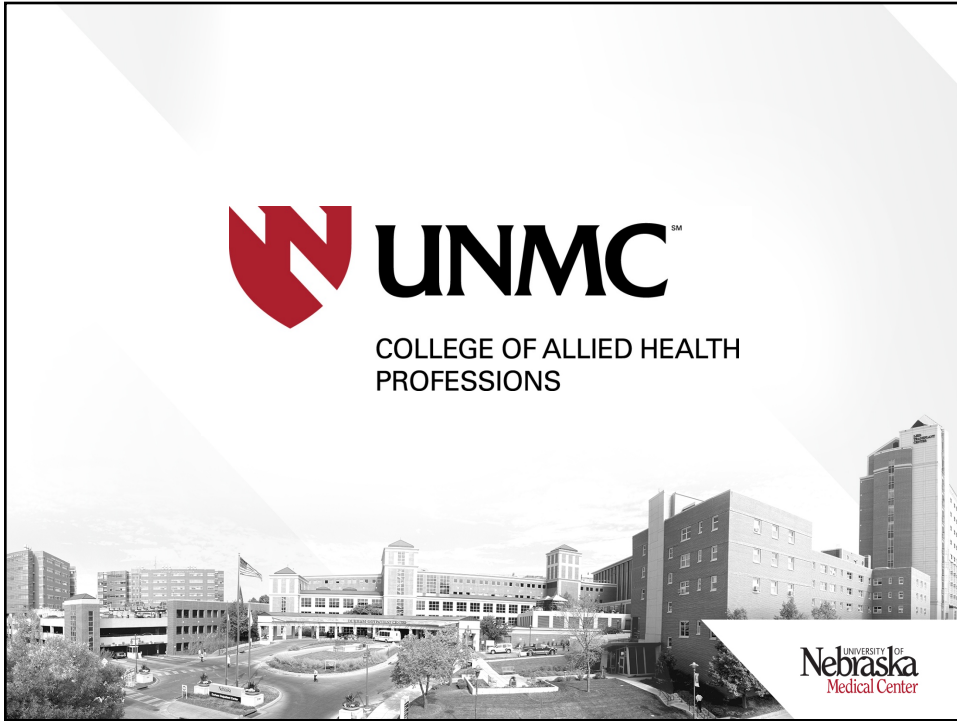
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This graphic contains the University of Nebraska Medical Center logo in the top left corner, which includes the red stylized 'N' and the text 'University of Nebraska Medical Center' and 'COLLEGE OF ALLIED HEALTH PROFESSIONS'. To the right is a red and white target icon with a black hand cursor pointing at the center. Below these elements is a large, rounded rectangular box with a red border and a light gray background. Inside this box, the text 'Click Here!' is written in a large, bold, black font, followed by 'E-Learning Modules for Innovative Instruction and Learning' in a smaller, italicized black font. A yellow arrow points from the bottom left corner of this box towards the URL below. The URL is 'http://digitalcommons.unmc.edu/cahp_pt_pres/10/' and is enclosed in a white box with a red border.

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

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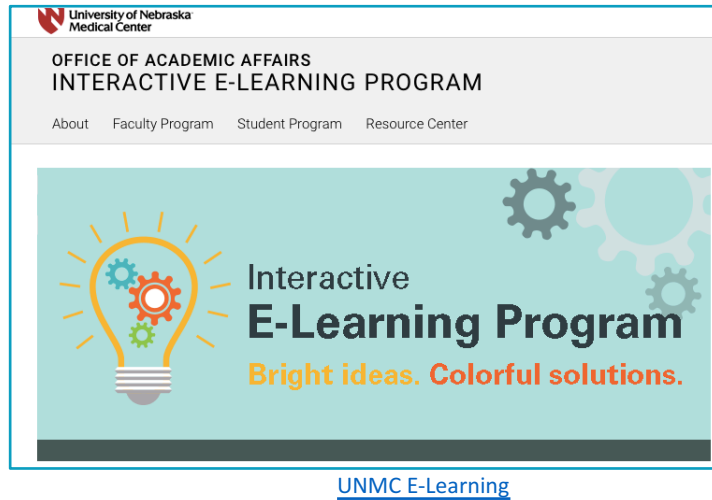
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Acknowledgements



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.



Background & Evidence

This?

This?

Majerus, Johnson, Becker, 2016. http://digitalcommons.unmc.edu/cahp_pt_pres/

A graphic with a target icon and the text "Background & Evidence". Below this is a photograph of a chalkboard and a desk with a laptop, tablet, and keyboard. A grey arrow points from the chalkboard to the text "This?" and a green arrow points from the text "This?" to the desk.



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

Adams 2015, Cantarero-Villanueva, et al. 2012, Preston et al., 2012, Veneri 2011, Weeks & Horan, 2013, Greenberger & Dispensa, 2015



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

Robb, 2014



Background & Evidence



“CIs were able to maintain best practices using just-in-time education, distributed clinical practice and reflection.”

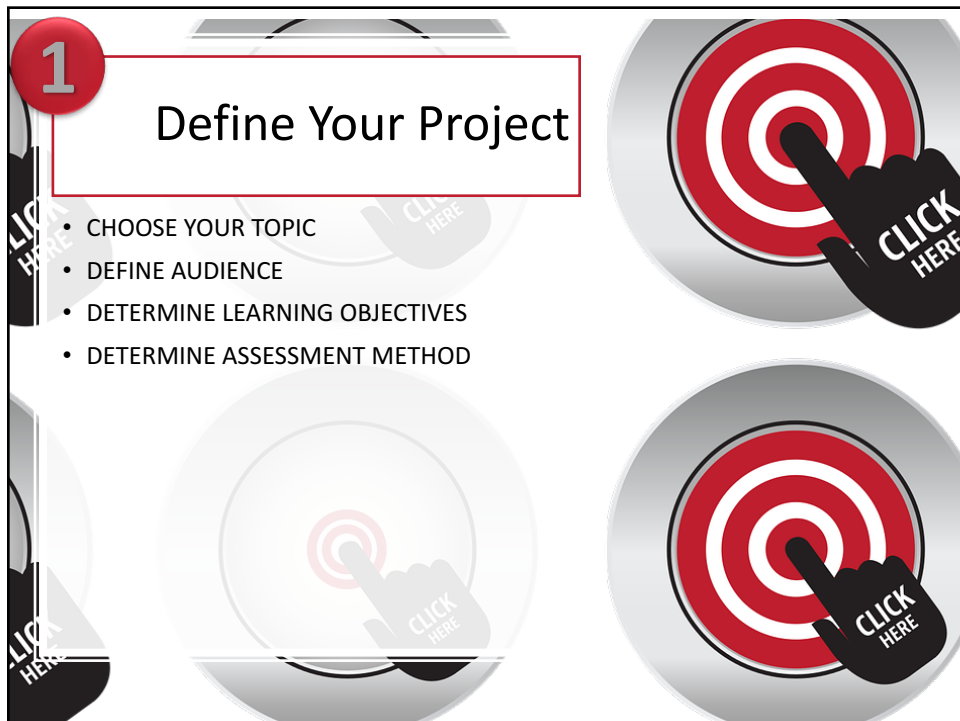
~Engelhard & Seo, 2015

Engelhard & Seo, 2015



The 5 Steps

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




1 Define Your Project

- CHOOSE YOUR TOPIC
- DEFINE AUDIENCE
- DETERMINE LEARNING OBJECTIVES
- DETERMINE ASSESSMENT METHOD

1

Define Your Project: Choose Your Topic


- Foundational knowledge
- Challenging content
- Learning domain

A decorative graphic in the bottom right corner of the slide. It features a red and white target with a black hand cursor pointing to the center. Above the target is a red and white striped banner with the text 'CLICK HERE' in black. The entire graphic is set against a white background with a subtle shadow effect.

1

Define Your Project: Define Your Audience


- Students, CIs, new faculty
- PTs, PTAs only or interprofessional
- Local vs. national

A decorative graphic in the bottom right corner of the slide, identical to the one in the first slide. It features a red and white target with a black hand cursor pointing to the center. Above the target is a red and white striped banner with the text 'CLICK HERE' in black. The entire graphic is set against a white background with a subtle shadow effect.

1

Define Your Project: Determine Learning Objectives

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



Good Vibrations

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



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Medical Center

< PREV NEXT >

1

Define Your Project: Determine Assessment Method


- Formative vs. Summative
- Dependent on purpose



2

Build Your Team


- MEMBERS



2

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?

3 Create Content

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






3 Create Content
Choose Software needed

Cost	
Nearly free	\$
<\$200	\$\$
\$600-\$1800	\$\$\$




3 Create Content
Choose Software needed

Difficulty















Easy	
Moderate	
Hard	

3 Create Content
Choose Software needed





















Interactivity



Almost none	
Something	
High	


3 Create Content
Choose Software needed

Software	Cost	Difficulty	Interactivity
PowerPoint	\$		
Office Mix	\$		 
ISpring	\$\$\$	  	  
Imovie and Garage Band	\$	 	

3 Create Content
Choose Software needed

Software	Cost	Difficulty	Interactivity
VideoScribe	\$\$	 	
Articulate Storyline	\$\$\$	  	  
Articulate Studio	\$\$\$	  	 
Camtasia	\$\$	  	  

\$








PowerPoint

Voice over Power Point converted into video

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

Image source: http://core0.staticworld.net/images/article/2015/02/microsoft_powerpoint_logo_primary-100567251-large.png Accessed 9/20/16

\$








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

Image source: https://pbs.twimg.com/profile_images/502969830463373312/4ox0MISr.png Accessed 9.20.16

\$\$\$  

 **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

Image source: <https://www.trainingpressreleases.com/media/896721/ispring-logo.png>, Accessed 9.20.16



\$\$  


 **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.

Image source: http://www.sparkol.com/wp-content/themes/duena/img/product_logos/videoscribe_2x.png, Access 9.20.16



\$  


 **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

Image source: <http://www.freeiconspng.com/uploads/imovie-icon-3.png> Accessed 9.20.16



\$  


 **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

Image source: <http://a4.mzstatic.com/us/r30/Purple30/v4/5a/b3/9f/5ab19fee-ea18-866d-c2dc-8be25701eb01/icon128-2x.png> Accessed 9.20.16

\$\$\$  

 **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

Image source: https://www.articulate.com/images/misc/fb_articulate.jpg Accessed 9.20.16



\$\$\$  


 **Articulate Storyline**

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

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

Image source: https://www.articulate.com/images/misc/fb_articulate.jpg Accessed 9.20.16


\$\$  

 **Camtasia Studio**

Screencast software with editing tools, animations, and effects.

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

Image source: <https://assets.techsmith.com/images/content/mkt-product-camtasia/camtasia-logo-dl.png>, Accessed 9.20.16

 **What do you think *now*?**

Which software would be most practical considering the learning objectives, your skill set and resources available?

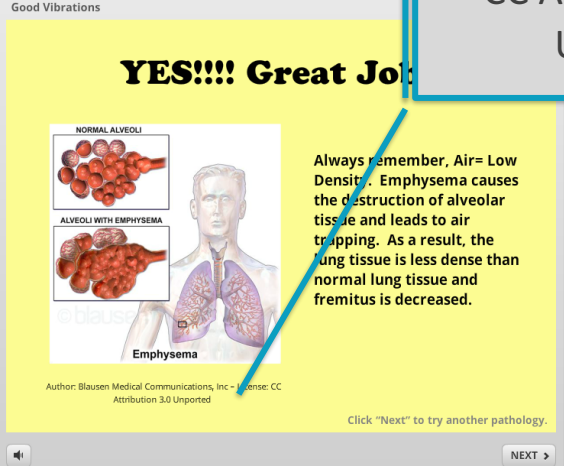
3

Create Content Choose Images



<http://unmc.edu/elearning/resource-center/project-development/images.html>

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Good Vibrations

YES!!!! Great Job!

NORMAL ALVEOLI

ALVEOLI WITH EMPHYSEMA

Empysema

Author: Blausen Medical Communications, Inc - License: CC Attribution 3.0 Unported

Always remember, Air= Low Density. Emphysema causes the destruction of alveolar tissue and leads to air trapping. As a result, the lung tissue is less dense than normal lung tissue and fremitus is decreased.

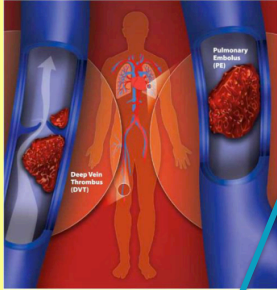
Click "Next" to try another pathology.

NEXT >

Image is public domain: From NIH Image Bank

Good Vibrations

Bummer Dude



PE's affect lung perfusion rather than ventilation. There is typically no change in lung tissue characteristics acutely, so femitus findings are similar to those of healthy lung tissue. Remember the characteristic exam findings of PE: pleuritic chest pain, increased respiratory and heart rate, and possible syncope.

Image is public domain: From NIH Image Bank

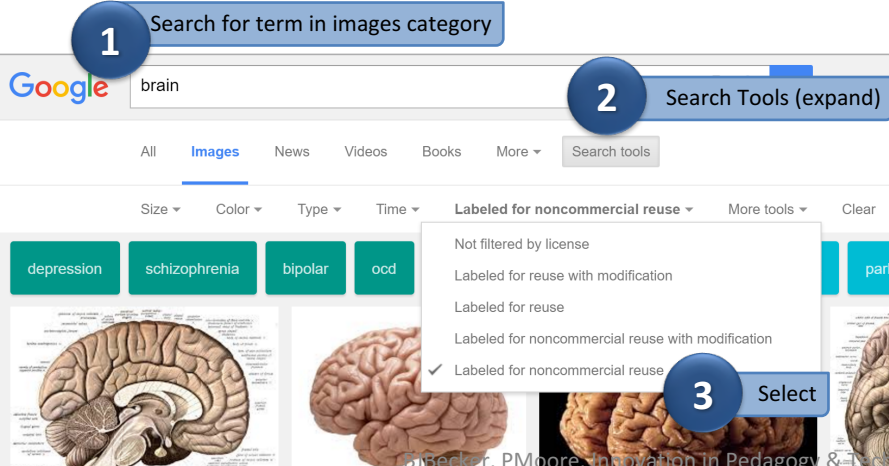
Click "Next" to try another pathology.

NEXT >

WOW!

Fair Use Images from Google Images

- 1 Search for term in images category
- 2 Search Tools (expand)
- 3 Select



By Becker, PMoore. Innovation in Pedagogy & Techno Symposium 2016

If you have funding, set aside money for pictures.



3

Create Content Gather Equipment


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



3

Create Content Contact Talent


- Actors
- Models
- Voice talent
- Videographers

A decorative graphic in the bottom right corner of the slide. It features a red and white target with a black hand cursor pointing to the center. Above the target is a red and white striped banner with the text 'CLICK HERE' in black. The entire graphic is set against a white background with a subtle shadow.

3

Create Content Instructional Design Guidelines


- Volume and length appropriate
- Design layout is effective and organized logically

A decorative graphic in the bottom right corner of the slide. It features a red and white target with a black hand cursor pointing to the center. Above the target is a red and white striped banner with the text 'CLICK HERE' in black. The entire graphic is set against a white background with a subtle shadow.

3

Create Content Instructional Design Guidelines

- Interactive learning elements are utilized
- Design engages the learner by capturing and sustaining attention

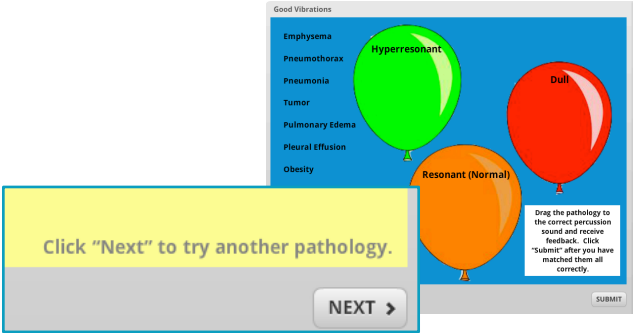


A graphic of a target with a hand cursor pointing to the bullseye, and another hand cursor pointing to a red and white striped area above it, both with the text "CLICK HERE".

3

Create Content Instructional Design Guidelines

Navigation instructions are explicit and consistently provided




A screenshot of an interactive learning interface titled "Good Vibrations". It features a list of pathologies on the left: Emphysema, Pneumothorax, Pneumonia, Tumor, Pulmonary Edema, Pleural Effusion, and Obesity. In the center, there are three balloons: a green one labeled "Hyperresonant", an orange one labeled "Resonant (Normal)", and a red one labeled "Dull". A yellow callout box at the bottom left says "Click 'Next' to try another pathology." with a "NEXT >" button. A small text box at the bottom right says "Drag the pathology to the correct percussion sound and receive feedback. Click 'Submit' after you have matched them all correctly." with a "SUBMIT" button.

3

Create Content Instructional Design Guidelines

and avoid letting them touch the floor



Check your Understanding on terms

click here →

Body Mechanics
https://quizlet.com/_1gvyp9

Positioning and Draping
https://quizlet.com/_1gvyp9

3


Create Content Instructional Design Guidelines

Follow ADA Guidelines

[ADA Guidelines](#)

TRANSCRIPTS

Good Vibrations




Good Vibrations
Interpretation of Fremitus and Percussion in a Chest Examination

Introduction
Abah! Welcome to the E-Learning Module, 'Good Vibrations: Interpretation of Fremitus and Percussion in a Chest Examination'. In this module, we'll take you ready lead to your basic sciences for a quick review of identity and wave characteristics. Once we've got that down, we'll apply those fundamental principles to fremitus and percussion interpretation. By the completion of the module, you will be able to describe a differential diagnosis of abnormality of breath using fremitus and percussion findings.

Make sure you pay attention, because I'll be checking your understanding as we move through the module. You'll get plenty of practice and you'll be a pro in no time! Ready? Let's Go!

When examining a patient, Physical Therapy typically start with auscultation. If these findings are abnormal, Fremitus and Percussion are 2 more techniques that can be used to provide more information and help determine

BED SYSTEM



Some features of beds:
Patient positioning
Percussion therapy
Pulsating air suspension..... And more

Three types of equipment that may prove beneficial in saving time and reducing caregiver injury are specialized bariatric bed systems, patient transport devices and bariatric turning and repositioning slings.

Bed Systems
New beds are designed to multi-task and accommodate larger weight capacities up to 1000 lbs. Special features offered are turn assist up to 20 degrees to aid in patient positioning, percussion therapy, pulsating air suspension therapy, pressure relief therapy and cardiac chair positioning. Along with newly designed bed frames, low air loss mattresses greatly assist in the prevention of pressure sores and improve patient outcomes, comfort and safety. An example of such a bed is shown.

55 sec

4

Conduct Reviews

- Peer & Student Reviews
- Utilize rubric to guide feedback



4

Conduct Reviews Rubric

Method & Practice of Education	Instructional Design
--------------------------------	----------------------

5 Implement

- PILOT
- MEASURE OUTCOMES

5 Implement
Pilot

Determine timing

Select people

5

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

5

Implement Measure Outcomes

Learning Effectiveness

CONFIDENCE

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

0 1 2 3 4 5 6 7 8 9 10

0 - not confident
10 – extremely confident

5

Implement Measure Outcomes

Learning Effectiveness

CONFIDENCE

Q1. Multiple choice question about topic

Q1a. Confidence rating

- A. I'm Positive
- B. Pretty Sure
- C. No Clue

The diagram consists of a red circle with the number '5' in the top left corner. A red line extends from this circle to a dark blue rounded rectangle containing the text 'Learning Effectiveness'. Another red line extends from the top right of this rectangle to a larger rounded rectangle on the right containing the text 'Implement Measure Outcomes'. A third red line extends from the bottom left of the 'Learning Effectiveness' rectangle to a white rounded rectangle with a red border. This white box contains the text: '**CONFIDENCE**', '*Q1. Multiple choice question about topic*', '*Q1a. Confidence rating*', and a list of three options: 'A. I'm Positive', 'B. Pretty Sure', and 'C. No Clue'.

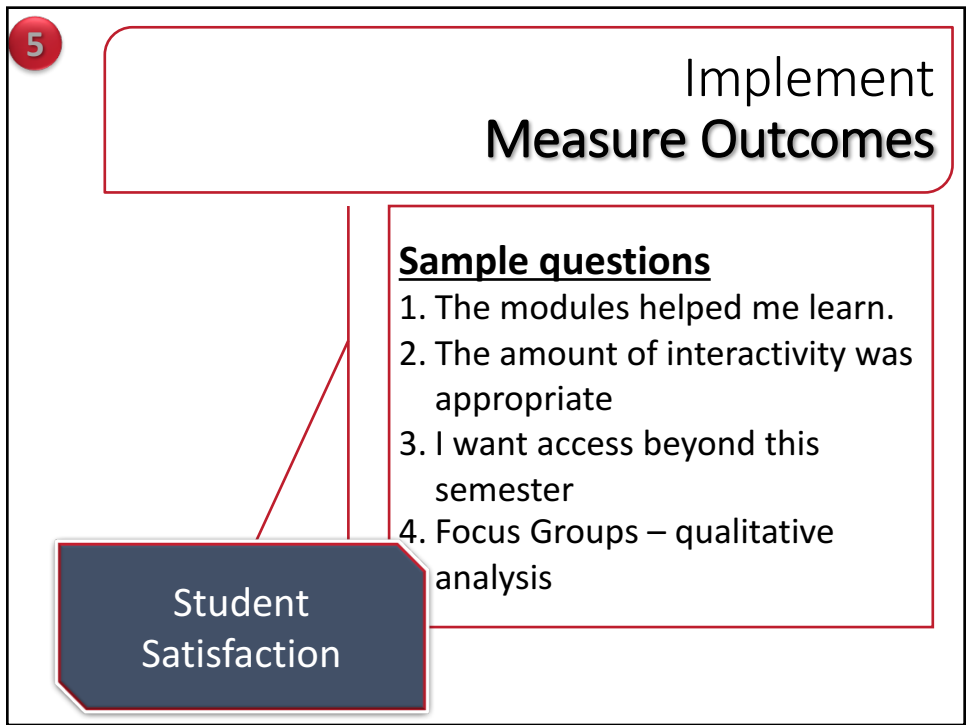
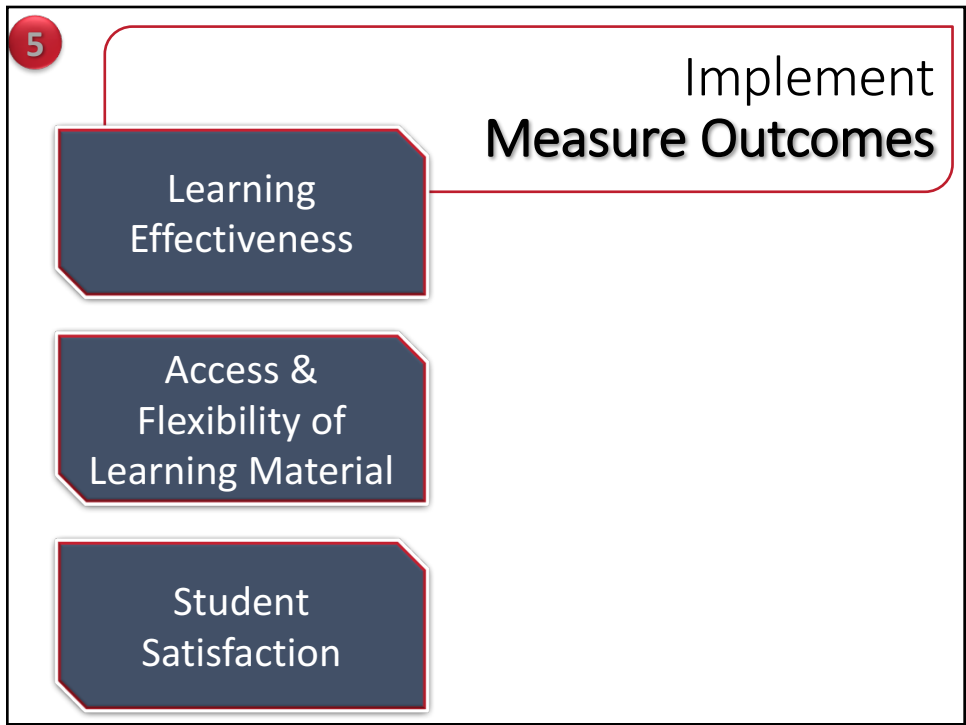
5

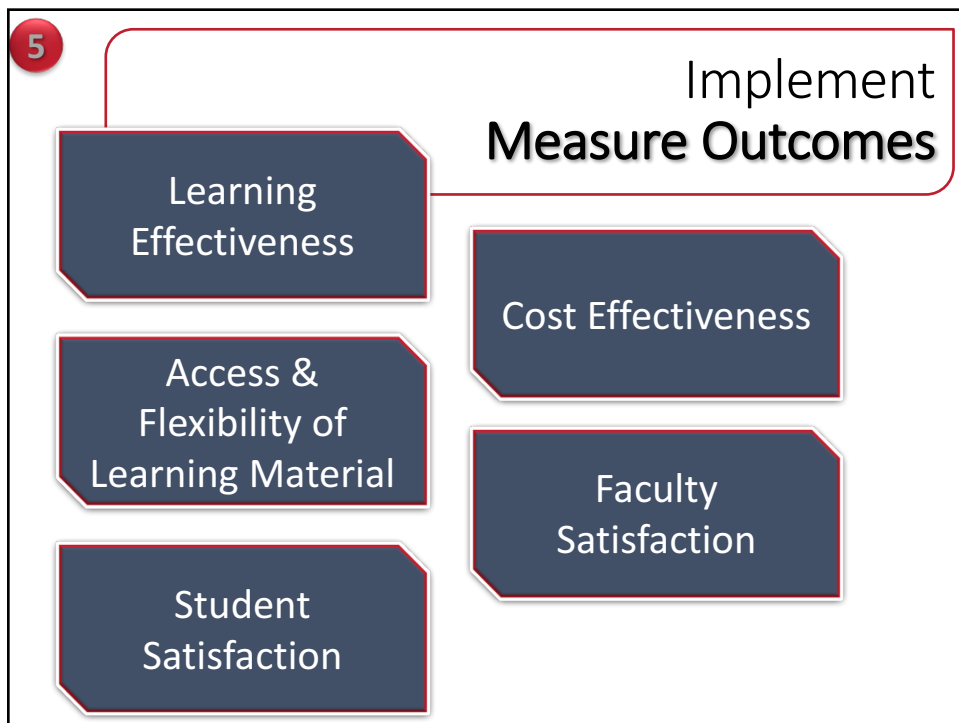
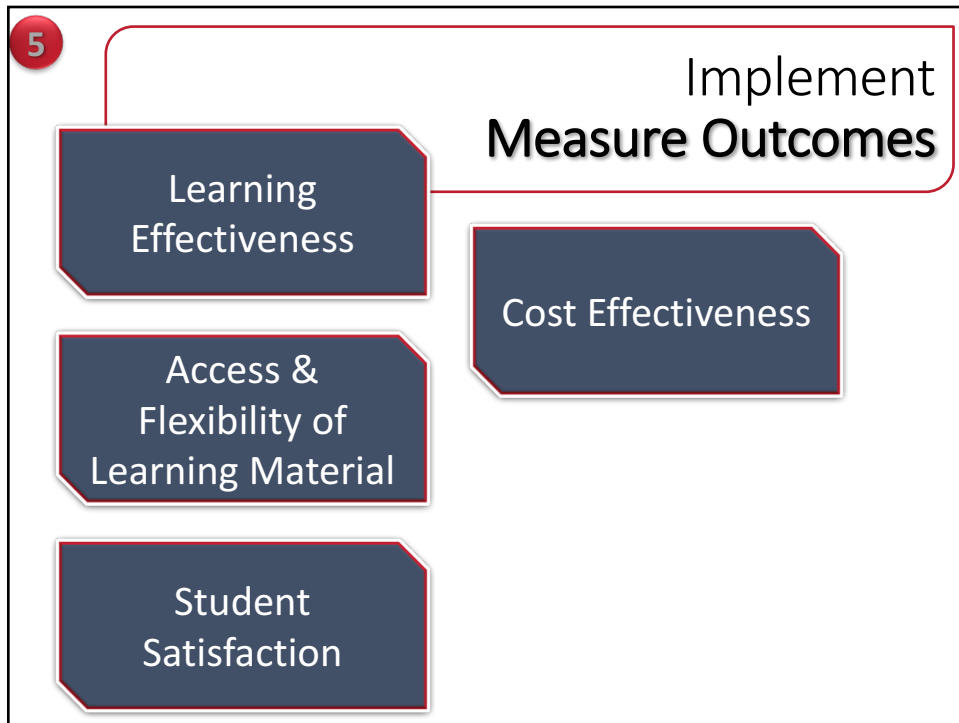
Implement Measure Outcomes

Learning Effectiveness

Access & Flexibility of Learning Material

The diagram consists of a red circle with the number '5' in the top left corner. A red line extends from this circle to a dark blue rounded rectangle containing the text 'Learning Effectiveness'. Another red line extends from the top right of this rectangle to a larger rounded rectangle on the right containing the text 'Implement Measure Outcomes'. A third red line extends from the bottom left of the 'Learning Effectiveness' rectangle to a dark blue rounded rectangle containing the text 'Access & Flexibility of Learning Material'.





Review of the 5 steps

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



The slide features a white rectangular box with a red border containing the text 'Review of the 5 steps'. Below this box is a numbered list of five steps. To the right of the list are two identical circular icons, each containing a red and white target with a black hand pointing to the center. The text 'CLICK HERE' is written in white on the hand. The background of the slide is white with faint, repeating watermarks of the target icon.

Resources



The slide features a white rectangular box with a red border containing the text 'Resources'. To the right of the box are two identical circular icons, each containing a red and white target with a black hand pointing to the center. The text 'CLICK HERE' is written in white on the hand. The background of the slide is white with faint, repeating watermarks of the target icon.

Websites for Software

MS Office PPT Mix (not available for MAC)	https://mix.office.com/en-us/Home
iSpring	http://www.ispringsolutions.com/ispring-suite
VideoScribe	http://www.videoscribe.co/
iMovie	http://www.apple.com/mac/imovie/
Garage Band	http://www.apple.com/mac/garageband/
Articulate Studio	www.articulate.com/products/studio.php
Articulate Storyline	https://www.articulate.com/products/storyline-why.php
Camtasia	https://www.techsmith.com/camtasia.html?gclid=CJv87pe25M4CFQmraQodWh8DuA

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Thank you!!!!

