eLearning and Instructional Design

Overview and Examples
What is eLearning?

eLearning courses are typically managed and administered via a learning management system (LMS). As author, Steven D. Foreman notes in his book, The LMS Guidebook, a learning management system is "a multiuser software application, usually accessed through a web browser. It helps organizations manage training events, self-paced courses, and blended learning programs. It provides automation that replaces rigorous and expensive manual work, saves time, and enables you to organize your content, data, and learners. It tracks and reports on training activity and results."

eLearning is a structured course or learning experience delivered electronically; it can also include performance support content. There are also many different elements that can make up an eLearning program, such as live or pre-recorded lecture content, video, quizzes, simulations, games, activities, and other interactive elements.

Broadly, eLearning falls into two main categories: asynchronous and synchronous. Asynchronous eLearning is self-paced; the learners are taking the course on their own, usually on a laptop or other mobile device. Asynchronous eLearning programs may include pre-recorded lecture content and video, visuals, and/or text, knowledge quizzes, simulations, games, and other interactive elements.

Synchronous eLearning, more commonly referred to as live-online training, online learning, synchronous online training, or virtual classroom training, is instructor-led and taken at the same time as other learners – everyone just happens to be geographically dispersed. This training typically uses a web-conferencing or virtual classroom platform (such as GoToWebinar) that offers features such as slide or screen sharing, as well as interaction tools such as chat and polling.

Benefits of eLearning

Cost-effective
Removes the needs for costly printed course materials and onsite instructors.

Improves performance and productivity
Allows learners to train quicker and easier which helps increase motivation and engagement on the job.

Saves time
The course content is managed by a learning management system administrator and learners can learn when their schedule permits.

Lower environmental impact
Provides an alternative to paper-based training and lowers and organizations’ environmental impact.
PowerPoint Do’s and Don’ts

**Do’s**

1. Organize information clearly. Be brief and clear. Don’t make your presentation too text heavy. Don’t bury important information in text blocks where they’ll be missed by your audience. Instead, distill your complex ideas into concise visual statements, only focus on one key idea per slide and try to keep the text to a minimum.

2. Move excess text to notes/script. Move excess text into the speaker notes and have the voiceover professional say the items instead of crowding them screen with them.

3. Limit the number of slides. A good case practice is using 20-30 slides or one slide per minute.

4. Follow the 1-6-6 rule, which is the SCCM standard for use for all education slides in our programming.
   - a. **1** concept per slide which is the title of the slide
   - b. **6** lines/bullets max
   - c. **6** words per line/bullet preferred on each slide

**Don’ts**

1. Put everything on one slide. It’s recommended that you don't use more than eight words per line or eight lines per slide. Start with creating the slides you want and then go back and edit them - remove all non-essential information, remove unnecessary words, and take out slides you can live without. Cut your presentation by as much as half to get to the core if it.

2. Overuse transitions and animations. These effects are meant to be used scarcely, to increase the impact of one idea. They can become a distraction very quickly.

3. Use Google as primary image source. Figures, tables, images, etc. without necessary documentation of permission or application for permission may be eliminated from the contribution, if necessary.

**Need a bit more help?**

- **PowerPoint for Windows Training**
  - Intro to PowerPoint
  - Slides & layouts
  - Text and tables
  - Pictures and graphics
  - Present slideshows
  - Animation, video & audio
eLearning Interactive Elements and Examples

Interactivity plays an important role in designing eLearning courses. Unlike traditional learning where learners are in a face-to-face situation, eLearning provides a wider environment with interactive objects to engage learners better. Interactive elements have been proven to not only help engage learners but also enhance their achievements in learning.

Below are the types of interactivity available. It should be decided what will be utilized and the committee/staff partner are responsible for working with the subject matter experts to develop the content in the way that matches the format(s) they select.

**Accordion Style (Click-and-Learn)**
On clicking each label, relevant information is displayed. This interactivity can be presented using a horizontal or a vertical layout.
Audio
Elements like podcasts or interviews are great for integrating information told by others, which can even enhance your content.
Case Studies
Immerses learners in real-life situation that allows them to gain knowledge or improve their skills, then apply them later outside the learning environment. This will motivate learners to gain knowledge related to a real-life context, rather than just giving them simple facts.

Case Study 1
- 58-year-old man brought emergency department with dyspnea and cough
- Active smoker with chronic lung disease
- Respiratory rate 30 breaths/min
- Awake, using accessory muscles, wheezing

What evaluation is needed to diagnose the type of acute respiratory failure?

Case Study 1
Which type of respiratory failure does this patient have?
- A. Hypoxemic respiratory failure
- B. Hypercapnic respiratory failure
- C. Mixed respiratory failure
Information needed:
- Patient information
- Patient image or video, permission needed (optional)
- Tables and/or graphs
- Question stem
- Answer choices with correct answer indicated
- Rationale
Discussion Board
Can help to create a social presence in an online course along with a sense of community. Presence and community, in turn, can foster emotional connections. They also improve student learning and can create greater feelings of satisfaction with the course.
Excel
Another way to provide learners with a resource tool. An Excel spreadsheet with formulas built in.
Flip Card Style (Click-and-Learn)
The title or main information is presented on the card. On click, the card flips to display its description and a representative image.

Information needed:
- Images
- Image description
- Answers
Images
Images are a good way to tell a story, connect with the learner, and emphasize important concepts. The information is easily digested, while making it more dynamic by presenting the data in a different way.

Other Burns
- Chemical
  - Brush off dry substances
  - Irrigate
- Electrical
  - Entrance, exit wounds
  - Cutaneous burns from arc injury
  - Flame exposure (clothing)
  - Potential rhabdomyolysis
  - Secondary injuries

Esophageal Perforation

Used with permission. Images courtesy of Matthew A. Factor, MD
Infographic
This option can help people understand complex concepts by using visual aids such as charts, graphs, or diagrams. Can use both images and text in a visual format to explain concepts. They can be used as an image and a learner can expand it while within the module and/or provided as a downloadable PDF.
Tips for Speaking With the Media
Access the accompanying webcast at ccm.org/mediatrainingwebcast.

Before the Interview

Check Your Surroundings
Minimize distractions and commotion.

Teleprompter
Keep it steady.
If pre-recorded, consider using a teleprompter app.

Lighting
Light from the front, not the back.
Good lighting goes a long way.

Camera
Keep it steady.

During the Interview

Emotional Broadcasting
Know the name of the interviewer and call them by name.
Compliment eg. That is a very good question; focus on positive emotions, such as bedside manner.

“Gotcha” Moments
Remember that you are the expert and know the most about the topic. Be in the moment and available.
Be prepared, friendly, and confident.

Remain Positive
Don’t be grumpy. Don’t look down.

Making a Mistake
Take a moment to reset.
Acknowledge the mistake and move on. Never continue while nervous.
WHAT YOU REALLY NEED TO KNOW ABOUT
VACCINE-INDUCED IMMUNE THROMBOCYTOPENIA AND THROMBOSIS

DEFINITION
A prothrombotic syndrome observed in a small number of individuals who receive an adenoviral vector-based vaccine (AZ or J&J) that strongly resembles spontaneous heparin-induced thrombocytopenia (spontaneous HIT syndrome). It has also been labeled as vaccine-induced immune thrombocytopenia, thrombosis with thrombocytopenia syndrome (TTS), and vaccine-induced prothrombotic immune thrombocytopenia (VIIT).

PATHOPHYSIOLOGY
VIIT is caused by non-heparin-dependent IgG class antibodies that recognize platelet factor 4 (PF4) bound to platelets and cause platelet activation, stimulation of the coagulation system, and clinically significant thrombosis. The mechanism for generation of antibodies is unknown; hypotheses include the adenovirus itself, splice protein expression, or the constituents of the vaccine.

CLINICAL PRESENTATION
Thrombosis and thrombocytopenia 5–24 days after vaccination with AZ or J&J vaccine. Often multiple thromboses, in atypical/unusual sites, particularly cerebral venous sinus thrombosis (CVST) and portal vein thrombosis. Amaurosis events have been described in 10% of patients. Mortality ranges from 30 to 50%. These patients are more likely to sustain cerebral hemorrhage than non-vaccine-associated CVST.

LABORATORY FINDINGS
- Thrombocytopenia (median <50,000 per microliter)
- Reduced fibrinogen (10–40 g/L)
- Elevated D-dimer (4000–80,000 FUs)
- Anti-PF4 positive by HIT ELISA
- HCV chemiluminescence assays often negative
- Normal or mildly increased PT, INR, and aPTT

WHEN TO SUSPECT
The acronym VIIT is useful:
- Vaccine given
- Interval 5–30 days post vaccine
- Thrombosis (usually the presenting symptom)
- Thrombocytopenia (on CBC, but can be incidental finding prior to thrombosis)

DIFFERENTIAL DIAGNOSIS
Differential diagnosis includes COVID-19, other causes of thrombocytopenia or thrombosis, including ITP and TTP, and classic HIT

MANAGEMENT
- CBC, coagulation studies (PT, aPTT, fibrinogen, D-dimer, PF4 antibody, ELISA)
- Anticoagulation (DOAC, fondaparinux, argatroban, bivalirudin)
- IV Ig (1 g/kg for two days); do not wait for PF4 testing if high suspicion (modified VIIT 4T score can be used)
- Plasma exchange for refractory cases (or those with >1 count <50,000 per microliter and CD)
- Minimize platelet transfusions

QUESTIONS
Incidence is not well defined, but recent estimates are 150,000–1,000,000, with rates higher in non-volunteers.
- Can heparin be used safely? Probably.
- Steroids likely not needed except in severe cases.
- Is it not known how long antibodies persist; recurrence possible.
- No identified risk factors.
- Avoidance of adenoviral vaccines not currently recommended.

REFERENCES:
[Links and references provided, which are not detailed in the image]

Resources:
Canva (free account available)
Providing PDFs is an opportunity to give learners a downloadable resource they can take back for their notes to study, a report, article, guidelines

### SBAR Handoff (Situation, Background, Assessment, Recommendation)

**Handoff**

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References

Hydroxychloroquine/azithromycin basic science


Lopinavir/Ritonavir basic science


Ivermectin basic science

- Bayer MR Coronavirus (2019-nCoV) Deactivation via Spike Glycoprotein Shielding by Old Drugs, Bioinformatic Study Preprint from Preprints.org. 02 May 2020. DOI: 10.20944/preprints202005.0030.v1 Preprints PP.0158226

Ivermectin meta-analyses

- Bryant, Andrew MSc1,*; Larime, Theresa A. MD2; PhD2; Drevets, Theresa PhD2; Fordham, Edmund I. PhD2; Mitchell, Scott MSc3; MRCP3; Hill, Sarah R. FPhD1; Thom, Tony C. MD, FRCPC. Ivermectin for Prevention and Treatment of COVID-19 Infection: A Systematic Review, Meta-analysis, and Trial Sequential Analysis to Inform Clinical/Guideline, American Journal of Therapeutics. July/August 2021 - Volume 28 - Issue 4 - p e4634-e4660 doc doi:10.1097/MTT.0000000000002402
Tab Style (Click-and-Learn)
On clicking each tab or label, its relevant content with an appropriate graphic is displayed. We can use tab interactivity to present content such as classification, process, relationship, list, etc. in an attractive layout that promotes learner involvement. Tab interactivity can accommodate a large amount of text. The best advantage of a tab style interactivity is that it can accommodate a large amount of text.
Click on each tab to learn more.
Test Your Knowledge

Test your knowledge questions are great ways to measure learners’ performance, provide feedback and let them know whether they can move on within the course or return to the previous activities to review the knowledge. There are various types of questions for you to choose from: True/false, multiple choice, multiple response, fill in blank, drag-n-drop, and sequence questions.
Video
It is an agile and entertaining format that connects with the audience instantly, providing context and facilitating storytelling.
Copyright and Permission FAQs

Copyright Assignment and Financial Disclosure
• Authors must complete the copyright and conflict of interest form they will receive under a separate email that your Staff Partner will facilitate.

When is permission required?
Permission should be sought for a reproduction or adaption of a copyrighted work. This includes but is not limited to text, abstracts, charts, tables, photographs, illustrations, or other materials that have been previously published.

What is the difference between reproduction and adaption?
Reproduction is the use of previously published material in exactly the same form. Adaption is changing the previously published form, by either adding or subtracting something, such as changing the color scheme. Even if you change something from the original, permission is still required for an adaption.

Can I simply redraw the material?
Redrawing is still likely to be an infringement of the original material. If the original and new work are considered substantially similar (i.e., that the two works are two identical and that copying was likely to have occurred), then it is considered an infringement. It is best to either create new material or seek permission for use of the original material.

When do I not have to obtain permission?

Material(s) not subjected to copyright protection
• Copyright only protects original (i.e., creative) materials. (Note: Even though the threshold for creativity is low; when in doubt seek permission to use potentially copyrighted material.)

Public Domain
• Public domain works are not protected and may be reproduced, adapted, or redrawn without permission.
• Included in the public domain are:
  o Materials that have an expired copyright term (i.e., anything published prior to 1923)
  o Materials where the copyright owner has expressly released the materials into the public domain (i.e., Open Access works)
  o Materials prepared by officers or employees of the US Government as part of their official duties

Where do I obtain permission?
Permission must be sought from the copyright owner and/or the rights holder. Most of the time, the copyright owner and/or rights holder will be the publisher of the work. However, the chart, tables, figure, or photograph may have come from a third-party source. If this is the case, examine the material and determine if permission must be sought from the original source. The publisher will usually include the source (i.e., a reference line) next to the figure, chart, or illustration.
What about material from a website? Do I need permission?
Most likely. This material is protected whether or not the copyright symbol is displayed. It is best not to use any material from a website as information can be changed easily and often. Also, finding the correct copyright owner or rights holder may be difficult to determine.

How do I obtain permission?
Many publishers or copyright owners will utilize RightsLink®, an online copyright clearance house. If the copyright holder and/or rights holder does not utilize this service, then contact the copyright holder and/or rights holder directly or reach out to SCCM for assistance. If you need help with RightsLink®, please contact SCCM as well.

What happens if I am unable to locate the copyright owner and/or rights holder?
Make every effort to find and contact the copyright owner and/or rights holder. You should keep records of all correspondence as proof of your attempt to seek permission. Never assume that an unanswered request is an implied authorization to use the copyrighted material.

After a good faith and diligent effort has been made to determine the original author, please contact SCCM for assistance.

What is SCCM's policy on patient photographs and information?
Appropriate consents, permission, and releases must be obtained from the patient or relative/guardian when you wish to include case details or other personal information or images of patients. Written consent must be retained by the author, and a copy of the consent must be provided to SCCM upon request.

If you do not have access to a consent form, please contact SCCM for assistance.

Once permission is obtained, what do I do?
Once you have secured permission, please make sure that you have appropriately credited the copyright owner and/or rights holder. The appropriate credit line will usually be stated in the license agreement.

In addition, please forward your license agreement to SCCM for future reference.

Questions, concerns, or assistance?
Please contact your Staff Partner or SCCM Customer Service.
Questions/Comments/Support

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