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IDT 604 (Instructional Design and Technology II):

Instructional Materials Planning

Submitted in partial fulfillment of the requirements for the degree of

Master of Science in Instructional Design and Technology (MSIDT)

By

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To

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Instructional Material 1

The first instructional material will be a recorded presentation. The presentation will be for Unit Four: Radiation Safety. The rationale for using a presentation in this unit is to increase awareness of this workplace environmental hazard when performing dental radiographs. While this potential hazard is discussed in all dental x-ray training, the cruciality for learner understanding can waiver. The focus of this presentation needs to look at why we need to use safety protocols when taking dental radiographs.

Outcome Alignment

The learning objective for Unit Four states, “Describe the steps necessary to practice dental x-ray safety.” This multipage presentation will cover the risk of performing dental x-rays, where the risk is the highest, the need for dental x-ray safety training and the steps required to perform dental x-rays safely for the user and surrounding staff.

Format

The presentation will use designed using slides utilizing the style of the infographic. Infographics are widely used in the health field as a form of patient education owing to its ability to communicate facts persuasively. Wansink et al. found that health care patients preferred to receive their information in a visual manner (Wansink, 2016). Since the information and facts conveyed in this presentation were necessary as a matter of public safety, a design using action-oriented titles and language a better decision than a standard presentation style. The use of

infographics is growing in the field of education because they cater to a learner's different learning styles (Wansink, 2016, p. 779).

For this application to work within the scope of the project, the success of the infographic message relies on its ability to elicit recall from the participant along with a change in behavior.

The difference in behavior occurs using active language giving clear and concise direct course of action. Dunlap et al. look at the design of infographics to deliver a significant and sometimes complex amount of content in a small space by whittling it down to clear and concise language (Dunlap, 2016). When the visuals in an infographic are used effectively, they increase learner understanding especially when the learner is unfamiliar with the topic.

Technology

The presentation will be designed using Powtoon. Powtoon has a similar interface to the more familiar PowerPoint. Powtoon has a sizeable graphic database with the ability to create animation into each slide. Graphics can also be added in from outside sources. The presentation will encompass 5-10 slides. The purpose of the short duration is twofold: 1) infographics use action language to keep the slides simple but carry a strong message. A strong message is necessary to convey the importance, and 2) a short presentation with a strong message will engage the participant.

Script:

Title Slide: Unit 3: Dental X-ray Safety

Welcome to the Unit 3 Presentation: Dental X-ray Safety.

X-ray exposure is a common hazard in the veterinary practice when the full body x-ray is in operation.

Dental x-rays also emit radiation.

Dental x-ray units are commonly kept near the dental treatment table.

<p>1. Who needs to view this presentation?</p> <p>Who needs safety training?</p>	<p>Any member of the staff whose job requires use of the dental x-ray unit.</p> <p>Any member of the staff that has access to the area where the dental x-ray generator is kept.</p>	
<p><i>Any member of the staff whose job requires use of the dental x-ray unit – That’s You!</i></p> <p><i>Any member of the staff that has access to the dental area needs to be made aware of the x-ray hazard.</i></p>		
<p>2. What’s the problem we need to solve</p>	<p>You have a dental x-ray machine in your treatment area. How do you protect everybody from radiation overexposure</p>	
<p><i>You now have a dental x-ray unit. How can you help protect the staff from radiation exposure?</i></p>		
<p>3. Where do we need to focus our training?</p>	<p>Fact: Training will cover two topics.</p> <p>Equipment safety</p> <p>Personnel safety</p>	
<p><i>This training will cover two areas that will be your primary focus:</i></p> <p><i>Equipment safety</i></p> <p><i>Personnel safety</i></p>		
<p>4. Training Focus: Equipment Safety</p>	<p>Equipment Safety</p> <p>Be sure the generator has been registered with the state. You can find your state’s guidelines by going to www.lowerthedose.org. Click on the tab “Guidelines by State” and find your state.</p> <p>You should receive a registration form to post on the wall of the clinic.</p> <p>Units will be inspected.</p> <p>Any malfunctions with the unit should be reported to the manufacturer and repaired immediately.</p>	

	ALARA	
	<p><i>Equipment Safety</i></p> <p><i>Takeaway 1: Locate your State Safety Guidelines</i> <i>The National Association of Veterinary Technicians of America, The American College of Veterinary Radiologists and IDEXX have a website called Lower the Dose at www.lowerthedose.org. Click on the tab, "Guidelines by State" and scroll down to find your state.</i></p> <p><i>Takeaway 2: Check the Settings</i> <i>When setting the unit for each radiograph, you want to follow the acronym – ALARA – As Low as Reasonably Achievable. That means knowing the lowest possible settings for the tooth you are radiographing based on the healthy weight of your patient.</i></p> <p><i>Takeaway 3 – Be Aware and Notify!</i> <i>If you are finding that the settings are consistently higher than they should be, call for service. The unit could be exposing you and your staff to higher than normal levels of radiation. Contact your manufacturer for assistance in finding a service provider. If there is a problem, say something!</i></p>	
	<p>Personnel Safety</p> <p>Monitoring equipment</p> <p>Dosimeters</p> <p>Pregnancy</p>	
<p><i>Personnel safety</i></p> <p>Takeaway 1: Monitoring Equipment <i>All staff members whose job is to take dental radiographs, must be provided with a badge type dosimetry monitor. Dosimetry badges measure the level of exposed radiation. Become familiar with the annual occupational dose limits.</i></p> <p><u>Annual Occupational Dose Limits</u> <i>Whole Body – 5,000 millirems</i> <i>Extremities – 50,000 millirems</i> <i>Lens of the Eye - 15,000 millirems</i> <i>Fetus – 500 millirems</i> <i>Accessory Staff Members – 100 millirems</i></p> <p>Takeaway 2: Protective Equipment <i>All staff members whose job it is to take radiographs, should be given the option to wear protective materials made of lead. Lead absorbs radiation particles.</i></p> <p>Takeaway 3: Pregnancy <i>The best practice for a pregnant staff member is to not take dental x-rays. If that is not possible, pregnant workers should wear monitoring devices at their abdomen and not exceed 55 millirems per month especially during the 8th – 15th week of pregnancy.</i></p> <p>Takeaway 4: Distance Yourself! <i>The x-ray beam travels from the cone of the tubehead and travels three feet forward. For the best protection stand six feet or more away and 90 -135 degrees from the tip of the cone.</i></p>		

<p>5. Call to Action</p>	<p>ALARA – check that you are using the lowest settings possible Double the distance. Stand 90 -135 degrees from the end of the cone. Dosimetry badges Signage – Alert the staff that dental x-rays are being taken. Accessory personnel should be trained to check the room before they walk into the dental area.</p>	
<p><i>Takeaway 1: The “Do Not” List</i> Do Not: Hold the patient Hold the sensor or plate Hold the tubehead while the radiograph is being taken. Hold the cone while the radiograph is being taken Stand in the direct path of the x-ray beam Stand closer than six feet away from the tubehead</p> <p><i>Takeaway 2: The “Do” List</i> Make a dental x-ray safety plan Clear the dental treatment area of all unnecessary personnel and announce you are taking a radiograph Read your exposure reports. Address any concerns to management. Report any problems with the x-ray unit immediately.</p> <p><i>Takeaway 3: Follow the ALARA Principles</i> Use the correct settings for the appropriate tooth and the patient’s size.</p> <p><i>Takeaway 4: Take “The Pledge”</i> Train all the staff on the dental x-ray safety plan At the end of the training go to www.lowerthedose.org and take the pledge to follow the ALARA principles.</p>		

Technical Comments

My experience with making the unit presentation using Powtoon was mostly good. The best use for Powtoon are short infographics with musical background. The platform is set up like PowerPoint, but the animation tools were much easier to work with. Powtoon gives animation

options for each object you add. Your subscription to Powtoon also allows you to upload your own media and graphics. With careful planning, collecting and uploading media streamlined the process. The voiceover can be made for the entire project or slide-by-slide. Powtoon suggests that the most efficient way to work with the program is to first make a make and record a script. This suggestion did help the plan immensely.

The program runs from the Powtoon website. The presentation was initially built using the free subscription and a blank template. As the project continued, the project would have to limit its size. An upgraded subscription was purchased, and the project was finished. There were a few issues that came up during the completion of the project. There was a 20-second time limit on the length of animation and voice recording for each slide. To circumvent this, the topic was divided into smaller presentation. This did help to avoid slides with too much material but added to the to the development time of the project.

In Week 2 Discussion 2 we covered how each principle would be covered in the material. The strategy proposed in the project is in italics. The results seen in the project are discussed after each principle.

Interactive Learning and Visual Design Principles

For this instructional material, the interaction will be a non-human interaction. Unit Four will be presented through an online interface. The participant will watch the presentation and then answer quiz questions. According to the Department of Defense scale of interactivity, this presentation will engage the learner on a Level 1 (Passive) to a Level 2 (Limited Participation)

interactivity (Defense, 2017). The planned animated graphics to convey a message will cause the participant to become engaged and motivated to act for their safety.

Graphics were used to add impact to the importance of the topic. Graphics and facts were timed with the voiceover. The entire presentation was less than five minutes to keep the participant focused. The voiceover carried a serious tone to maintain the importance of the subject matter. Graphics were simple in design.

The interactivity potential of this project was at a shallow level. The participant could not interact deeply with the material. This was a disappointing outcome of the project.

Motivational Design Principles

The ARCS Motivation Model serves this project effectively since it looks at how motivation is linked to behavior and emotions. The goal of this project is to elicit an emotional and behavioral response from the participant to protect themselves from radiation exposure by explaining the risks. The goal ultimately is to take the extrinsically motivated, stimulate them by the subject matter and change them to intrinsically motivated.

The motivation design results were lacking in this project. The brevity of the presentation caused the language to be short and to the point. During the design process, the brevity hindered detail. The missing detail may cause the participant to lose motivation in the topic. The project would make a good introduction to the topic but not to teach a topic.

Instructional Material 2

The second instructional material will be a job aid. The job aid will be for Unit Six: Troubleshooting the Dental Radiographic Image. The rationale for choosing this material is found in the needs analysis. In the needs analysis, the task of identifying solutions for technical errors has not transferred efficiently from the training environment to the work environment.

One solution is to involve Merrienboer and Kirschner complex learning theory into the training. Merrienboer and Kirschner found that it is not enough to teach the steps of the task, adding complexity to each stage of the training teach problem-solving skills (Van Merrienboer, 2018). Before the activity training begins, a lesson is given by the trainer that goes reviews the components of a diagnostic radiograph and technical errors. Using the steps during the assessment lesson, the participant learns to assess their radiograph for diagnostic completeness.

Handshaw states that a job aid can also be referred to as performance support. That performance support can be in hard copy form or an electronic format. The job aid will ensure that the performance of the tasks carries over from the classroom to the job. The job aid must be accessible when it is needed (Handshaw, 2014). A job aid is a tool used to provide additional support or guidance to perform a task. The job aid would be an instructional material the participant can access once they start using their skill individually. The job aid should be available both during the training when the participant is learning the skill for the first time and after the training to remember the steps learned.

Outcome Alignment

The learning objective for Unit Six states, “Identify the solutions to technical errors found on the finished radiograph.” For this unit, a step-by-step job aid will be created using a checklist to ensure the participant has checked the radiograph for completeness and technical errors. Clay-Williams et al. state in their article that checklists are often used to perform an operational check of equipment and non-critical health procedures (Clay-Williams, 2015). Checklists are updated as the equipment or procedure steps change.

Technology

The step-by-step checklist will be created using Word. Peregrine Performance Group developed an application called “JobAider” that help the user design a job aid using an electronic format (Peregrine, n.d.). The application has a free trial with no size limit project. Approval has been given for the project to proceed.

Project Commentary

As preparation began on Instructional Material #2, two pieces of reading material brought the project into focus. The first is an excerpt from chapter 9 of the Morrison text. In this chapter, Morrison discusses how to develop instruction. Even though we are developing instruction, we always learn something new as we figure out which tactics work and which don’t. Learning from a project makes the experience more positive than negative.

Making instruction concrete. Morrison focuses on how to make instruction concrete. Concrete instruction is found in the words and graphics chosen for the delivery. Words, sentences, and graphics are abstract or concrete. Concrete instruction does not only mean the

information must be kept simple. One can use a mix of abstract and concrete information if there are ways to keep the information as uncomplicated as possible. Instruction is made concrete through three avenues – 1) use of illustrations, 2) the type of words one chooses and 3) an ample number of examples to explain more abstract concepts (Morrison, 2013). Having abstract information in the instruction engages the participant by challenging their minds to process new knowledge on top of their learned knowledge of the subject.

Controlling the step size. In this project, the objective of the instruction is the transfer of knowledge and skills. The transfer will be successful if the participants are presented with multiple learning scenarios. The job aid is presented in the form of a decision tree. Participants can use the job aid while they are taking x-rays and interactively make decisions and corrections along the way. Morrison also focuses on the importance of controlling the step size or transitions between sections of the training. Step size can be controlled by using consistent terminology throughout the material and consistently use references that harken back to the participant's prior knowledge on the topic. These strategies provide background reminders for the participant which makes the material easier to comprehend because they have a mental frame of reference (Morrison, p. 191) .

Delivery considerations. When making decisions about the delivery of the instruction, research led to an article by Agola that looked at how job aids could be the most effective. There are three types of job aids – 1) informational, 2) procedural, and 3) decision making aids (Agola, 2017). Examples of informational aids are phone books or company intranets. These help the user by organizing the material and help with finding information or people. Examples of

procedural aids are flow charts and step-by-step instruction guides. They help the user to perform a task with steps. Examples of decision-making aids are decision trees where questions are asked along each step of the task so that they can determine the best decisions along the way.

Agola's article also addresses how cognitive load theory is considered when designing a job-aid. Cognition is composed of working memory and long-term memory. The aim of teaching skills is moving the new knowledge from working memory through engagement into long-term memory where it will be retrieved as needed. The study performed in this article studied call center customer support workers. These workers answer questions by inputting the question into a computer database, and an answer is given. Commonly, these questions are presented in the form of a decision tree where each question and answer are mapped out on a single page. The workers compared the decision tree format with an interactive decision guide. The interactive decision guide displayed the content one step at a time. The response inputs guide the worker down the appropriate decision path. The workers found the interactive decision guide less taxing because the format was focused and more user-friendly.

The Morrison chapter and the Agola article shaped the job-aid format. The instructional material would be written using concrete, simple language with examples to explain more complex topics to help comprehension. The participants would be best served with an interactive decision guide format. Each step of the assessment process would be presented using a linear approach. The unit has two objectives shown in Table 1 below. For the first section objective, a card set was made where the participant could see each component of a diagnostic radiograph. Each component has a corresponding image to stimulate the participant's attention

to correlating the words with the picture. The second section objective is presented as an interactive user guide. The presentation is interactive. The participant will shoot an image and perform a three-step assessment to confirm their image has correct positioning. The participant will enter the decision tree and answer questions as they assess their image. The participant's answers will lead them to the next slide appropriate to their decisions.

Table 1

Instructional Material 2 Delivery Outline

Presentation Order	Delivery	Notes or Script
Slide One: Objectives	Text under location 1	Objectives: <ol style="list-style-type: none"> 1. The participant will explain the components of a diagnostic radiograph. 2. Given a radiograph, the participant will analyze the result for correct positioning and technical errors.
Slide Two: Unit 6 Section 1 What makes a dental radiograph diagnostic? Hyperlink to Quizlet location Instructions: Click on the link below. There are four locations on the image. Each location is a component that needs to be examined for a dental image to ruled diagnostic. Click on each of the four locations to see the correct positioning.	Card set made on Quizlet. On the card is an image of a tooth. When the participant clicks on an area of the image, this prompts another card to pop-up with the name of the location and what it should look like on a diagnostic image	<p>Crown – The crown of the tooth should be partial to completely on the image.</p> <p>Cementoenamel junction – The area where the crown meets the root is the cementoenamel junction. The cementoenamel junction should be visible on the image.</p> <p>The Root – The entire root should be visible on the image.</p> <p>The Periapical Space - Periapical means "around the root tip." There should 2mm of space around the root tip.</p>

<p>Slide Three: Unit 6 Section 2 Instructions: Follow the link below. In the top right corner of Google Slides click present. The links in the presentation become interactive. Use the links to answer troubleshooting questions.</p>	<p>Interactive Linear PowerPoint presentation. Each slide will have the capability to move backward and forwards through the decision tree.</p>	<p>Three Steps Step 1 – Too Light or Too Dark</p> <ul style="list-style-type: none"> • Solutions for generator settings. • Solutions for sensor malfunction. • Solutions for generator malfunction. <p>Step 2 – Tooth length</p> <ul style="list-style-type: none"> • Solutions for too long. • Solutions for too short. <p>Step 3 – Plate or Tube</p> <ul style="list-style-type: none"> • Solutions for image cut-off. • Solutions for cone cut-off.
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Technical Commentary

An examination of the Peregrine app “Job Aider” found the program more difficult to use than expected. Posted job-aids on the app were wine purchasing, website guides, technical instructions. Links and graphics were mostly YouTube videos and screenshots. The limitations of the program were- 1) accessible only on a mobile device and 2) difficulty uploading materials into the app. The accessibility only on a mobile device made development difficult because materials and delivery decisions needed to work for both a desktop computer and mobile device. Uploading materials were limited to videos and images only. Links to materials needed to be copied and pasted into a text box. This limitation brought up concerns for potential problems for participants getting the links to work. Other options for the presentation of the unit needed to be considered.

For Unit 6 Section 1, Quizlet was used to card set. A radiographic image of an ideal image was uploaded into a card and labeled. Each label would bring up an additional card where terminology and definitions could be linked. This interface made the instruction seamless since the participant could now visually link the labeled graphic with the terminology with included definitions.

For Unit 6 Section 2, PowerPoint was used to create a linear presentation. This format made the interactive user guide easy to create. Hyperlinks on the slides guide the user through the job-aid based on the decisions as they assess their radiograph.

Since “JobAider” had limitations, Google Classroom made an easy and free delivery platform. Each section of the unit could be uploaded and linked in the classroom. The PowerPoint is viewed using Google Slides presentation mode. The presentation mode is the only way the links will function properly for the participant.

Alignment of Principles

This instructional material provides concrete instruction through many connections between graphics and terminology. Each course concept combined graphics and written materials to stimulate the participant to learn the steps of assessing a dental radiograph. Section 1 provides a baseline knowledge of how a correct image should look. The visual of the correct image provides a reference for the participant as they move into Section 2. Section 2 increases interaction and motivation as the participant now has to look at their image with a critical eye and based on the prompts in the PowerPoint presentation look for solutions for any technical errors.

Preliminary research done before developing and building the material made a difference in the choices made for this project. Decisions were made with more confidence and changes to the project could be made.

Instructional Material 3

The third instructional material will be an instructional video. The instructional video will automatically start upon opening the online course opening page. The video would be a tutorial; to help the participant navigate around the online course (Winch, 2015). The rationale for developing this video is to provide learner support. The participants in the target audience will be adult learners. In their article, Winch et al. found that some adult learners are new to online learning and might not find the course intuitively navigable. It has been shown that learners that use a video tutorial do better than those that don't (Winch, 2015, p. 408).

Outcome Alignment

The syllabus, course units, and objectives are vital pieces of the online course. The instructional video is a tutorial to show participants how to find those crucial pieces of the online course. The tutorial will cover locating the unit links, taking quizzes, where to keep track of course progress and how to download their certificate of completion.

Technology

A skeleton course will be created to map out the parts of the online course that will be used to script the video. A suggested skeleton program would be to use the free trial version of Canvas;

the LMS used at Ashford University. The benefit of using Canvas is familiarity with the program as a student.

The instructional video will be created using Camtasia. The presenter will narrate each step of the course navigation by displaying the screen and describing the steps. A question is asked at the end of each screen narration to determine the participant has comprehended the step.

Project Commentary

Choosing learning management software was challenging. For someone who does not have access to LMS software on a regular basis certain criterion needed to be checked off while making a decision about which one would work best for the project.

Cost

With no budget being available, choices needed to be narrowed down to a free or a fairly long trial period version. The first group of programs that were investigated was Google Classroom (free), Easy Course (free), Canvas (free trial), Moodle (free) and Adobe Captivate Prime (free trial).

Course flexibility and ease of use

The course needed to have all of the components needed to make the course motivational and interactive. Primary components were media link uploads, quizzes and the ability to rearrange the order of the units. Lastly, the program needed to be easy to use for a beginner. Google Classroom and Easy Course were limited on the types of files I could upload. Moodle was too difficult to install on the computer and Canvas had too many components for the needs of the

course. Adobe Captivate Prime has a bit of a learning curve. After three attempts of inputting course components and learning the LMS language, I had a skeleton course uploaded.

Course content development

A copy of Adobe Captivate was purchased for this project. The learning curve was too steep to meet the deadline of the assignment. A free trial of iSpring was looked at and downloaded. iSpring comes as an add-on for PowerPoint. There were templates, quiz developing tools, easy media uploading tools and the capability to publish it to an LMS (with a paid subscription and more training). The content was uploaded into Captivate Prime, and a basic course was built.

An instructional video was recorded using Camtasia and uploaded into YouTube. A script was written and is presented in Table 3.

Table 3

Instructional Material 3 Script

Introduction	<i>This is a video that will help you navigate through your course: Dental Radiology Preparation. I am Jeanne Perrone, your instructor.</i>
Opening page	<i>On the opening page, you will see the catalog for the courses. Scroll down to recommended courses and click on Dental radiology preparation</i>
Modules page	<i>Now we can see the course modules. Each module has a corresponding link in the course. If you are unable to access the link, make sure you are enrolled in the course. Once you are enrolled, start with the Course Outline link</i>
Course outline	<i>Click on the information link to access the course outline. Here you will get to know me a little bit and more importantly, how to get in touch with me. You can reach me quickly by email, phone or text. Once you have finished reading the outline,</i>

	<i>please click on the conformation link below that tells me you have read the outline. From the outline you can click on the link back into the modules. Or click on the x in the corner. Once you have completed the module a little green x will appear. Let's look at the features of the units</i>
Course objectives	<i>The main title for the unit takes to the course objectives. Click on the x in the corner to return to the modules</i>
Modules	<i>Each module has two to three slides – The first slide has a diagram to review; the second slide has a media component. The diagram lays out the important terminology you will need to know for the unit. The media slide has a multimedia presentation to add depth to your learning, and lastly, each unit will have a quiz that you will need to complete before moving on to the next unit or section. When you complete a unit, you receive a badge.</i>
Course completion	<i>At the end of Unit 4 you will be asked to complete a survey about your experiences in the course. Once the survey is complete, check to make sure you have completed all of your badges. Take a screen shot of all of your badges and bring them to the positioning training class as proof of completion.</i>
Closing remarks	<i>I hope you enjoy the course. Please contact me if you have any questions along the way. This helps me make the course better.</i>

Alignment of Principles

Instructional Material #3 was to make an instructional video covering navigation through an online course. A skeleton course needed to be developed to be able to give the video some context. More time was spent developing the skeleton course than making the navigational video.

The purpose of the navigational video is to help the learner know how to find the objects needed to complete the course successfully. Combining a visual and audio gives the learner improved comprehension as the transfer of knowledge moves from working knowledge into long-term memory (Morrison, 2013).

The learner begins the journey with the course overview. This is where the instructor contact information is kept. Students will do better if they get all their questions answered. The layout of the course components is reviewed so the learner has a clear idea of how they will be learning the topic. Each course component comes with an attached skill knowledge which is checked-off as they complete them. The learner is then given a badge to show completion of the skill.

Lastly, the student is shown how their homepage will look at the completion of the course. The live progression status and badges motivate the learner to see the course to the end. Ending the instructional video with a view of the completed homepage gets the learner excited about getting started.

References

- Agola, E. S. (2017). An investigation into the effect of job-aid design on customer troubleshooting performance. *Performance Improvement Quarterly*, 30(2), 93-120.
doi:10.1002/pig.21245
- Clay-Williams, R. C. (2015, May 12). Back to basics: Checklists in aviation and healthcare. *BMJ Quality Safety*, 428-431. doi:10.1136/bmjqs-2015-003957
- Dunlap, J. L. (2016). Getting graphic about infographics: design lessons learned from popular infographics. *Journal of Visual Literacy*, 35(1), 42-59.
doi:10.1080/1051144X.2016.1205832
- Handshaw, D. (2014). Designing for the classroom -virtual and live. In D. Handshaw, *Training that delivers results: Instructional design that aligns with business goals* (pp. 125-138.). New York, NY: Amacom.
- Morrison, G. R. (2013). Developing instructional materials. In G. R. Morrison, *Designing effective instruction* (7th ed., pp. 186-221). Hoboken NJ: John Wiley and Sons.
- Peregrine, P. G. (n.d.). *JobAider*. Retrieved from JobAider: <https://www.jobaider.com/>
- THRSC. (2015). *Tips for developing job aids*. Retrieved from THRSC:
<https://thrsc.com/essential-skills/wp-content/uploads/2015/03/Tips-for-developing-Job-aids.pdf>

Van Merriënboer, J. K. (2018). A new approach to instruction. In J. K. Van Merriënboer, *Ten Steps to Complex Learning: A Systematic Approach to Four-Component Instructional Design* (3rd ed., pp. 1-10). New York, NY: Routledge.

Wansink, B. R. (2016). Which design components of nutrition infographics make them memorable and compelling. *American Journal of Health Behavior*, 40(6), 779-787.
doi:10.5993/AJHB.40.6.10

Winch, J. C. (2015). Improving student performance in a management Science course with video tutorials. *Journal of Education for Business*, 90, 402-209.
doi:10.1080/08832323.2015.1081865