CASCADE SERVER TUTORIAL REPORT

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Within the last year, UNCW has switched from using Adobe Contribute to Cascade Server as its web content management system, which is used to create, publish, and edit content for the university's numerous web pages. In the past, UNCW offered a self-directed learning module on Skill Port for learning Adobe Contribute, but the university presently lacks a module for Cascade Server. Instructional designers Colton Sinkovich and Stephen Anim worked with the Ed Tech Unit in Watson College at UNCW to acquire information for the analysis, design, development, implementation, and evaluation of instruction for web content managers (WCMS) in Cascade Server.

In the past, the Ed Tech Unit has offered face-to-face lectures for Cascade Server. The instructional designers interviewed a staff member of the Ed Tech Unit as part of a learner and context analysis for these sessions. The instructional designers designed and developed a self-directed learning module for WCMs transitioning from Adobe Contribute to Cascade Server. This module took the form of a tutorial and was based on the direct instruction model. The instructional goals were based on performance objectives, which were in turn created from the skill set that WCMs would need to perform their jobs.

REPORT I

SECTION 1: THEORETICAL ASSUMPTIONS

PART 1: INSTRUCTIONAL MODEL

The most fitting instructional model for the self-directed learning module, Cascade Training for UNCW Web Content Managers, was direct instruction. Direct instruction uses explicit teaching techniques that are particularly useful for teaching the mastery of information and skills. Direct instruction maximizes student success by thorough coverage of learning objectives with increased time on task. The material should be presented in a step by step progression where an instructor is in control. Much of the work done in Cascade Server is procedural, with very few tasks requiring higher order thinking, which invalidated the application of problem-based or experiential learning. Direct instruction was the most appropriate.

The direct instruction model calls for an instructor, but its other characteristics are suitable for a self-directed learning module. Conventionally, it is believed that a teacher is needed to make decisions about the learning goals, the criteria for successful instruction, and the instructional methods, but this was accomplished by the instructional designers by embedding these features in the module itself.

SITUATIONAL PRINCIPLES

Our module is a scripted lesson, which is a situational framework used within direct instruction. This is because many of the basic skills a web content manager must demonstrate are chain behaviors and step-by-step procedures. It is broken down as follows:

- Follow all the same basic phases and events
    - Using Adobe Captivate, we created step-by-step scripted video tutorials that guide learners through all basic phases and events that web content managers complete.
- Broken into logically arranged small pieces and follow a question answer format
    - We also broke down the instruction into logically arranged small pieces. For example, we broke down navigation into navigating the global Cascade menu, the uncw.edu Cascade site, and Cascade page editor for specific UNCW websites.
    - These small, logical pieces also follow a question and answer format. For example, “How do I find a specific webpage?” and then we provide the answer in the page editor video tutorial.
- Students complete assignment after each scripted demonstration
    - After the question is presented and the video watched, each section has a quick review and interactive knowledge check which includes feedback on both correct and incorrect answers.
- Scripted lessons should be kept short

- Each overview slide, video tutorial, and assessment slide are kept shot (under five minutes) in order reduce cognitive load on the learner.

UNIVERSAL METHODS

1. Presentation
    a. Review: Go over skills that are relevant or prerequisite
        i. During the beginning of the module, a slide will describe all necessary prerequisite knowledge. This includes computer navigation skills, web browser operation, and definition of essential terms such as web content management system.
    b. What: State knowledge or skill to be learned
        i. Before each section in the module, there will be an overview slide that summarizes the upcoming content the video tutorial will cover and what the student should learn.
    c. Why: State importance/relevance
        i. The overview slide will also include a description of why the upcoming video tutorial is important for the learner to know.
        ii. For example, our "Page Editor" navigation section explains that understanding the navigation is essential for learning how to find the page you wish to edit.
    d. Explanation: Clearly explain knowledge or skill to be learned
        i. Each video tutorial is fully scripted and describes the step-by-step process the learner must complete.
        ii. See Appendix A for an example of a script for navigating the uncw.edu Cascade Server site page.
    e. Probe and Respond: Provide multiple opportunities to demonstrate learner's initial understandings
        i. The assessment questions after each video tutorial will allow the learner to test their initial understandings and provide feedback for both correct and incorrect answers.
2. Practice
    a. Guided practice: Practice under the guidance and supervision of the teacher
        i. Each video tutorial is an example of guided practice. Learners may follow along in a separate web browser.
    b. Independent Practice: Practice under independent conditions
        i. After the tutorial, learners may log in to Cascade and navigate to the training site to practice creating their own web pages under independent conditions in a safe environment.
    c. Periodic Review: Periodically review in order for learner to use their new knowledge and skills
        i. The video tutorials will periodically review previous steps to reinforce the learners far transfer knowledge.

3. Assessment
    a. Formative Assessment
        i. After each video tutorial, the learner will have to answer questions that will test their knowledge throughout the module.
    b. Summative Assessment
        i. Using the software simulation feature on Adobe captivate, we created both an identical pre-test and post-test. This test will keep track of correct and incorrect clicks which will allow the designers to summatively assess the learner's knowledge of skills and concepts.

PART 2: LEARNER AND CONTEXT ANALYSIS

LEARNER ANALYSIS

GENERAL / DEMOGRAPHIC INFORMATION

Information Categories	Learner Characteristics	Data Resources
Age	100% of learners are under age 60. 100% learners are over age 22.	Employment Records
Gender	Example: 75% - women 25% - men	Employment Records
Health or Special Needs	Information not available	Employment Records
Ethnic/Cultural Background	Information not available	Employment Records
Language	100% - English as a first language	Employment Records

ACADEMIC / EDUCATIONAL INFORMATION

Education completed	100% - earned their undergraduate degree 50% - earned a master's degree 5% - earned a Ph.D	• Interview w/ SME • Employment Records
Previous Related Training completed	Adobe Contribute web content manager training	• Interview w/ SME
Standardized test scores related to topic of this training	Not applicable	• N/A

Reading Levels	Not applicable	• N/A
GPA	Not applicable	• N/A

SPECIFIC CHARACTERISTICS

Entry Skills	Example: All - have a basic understanding of the general rules for the world wide web. All - have a basic understanding of typing, computer, and web navigation skills.	• Interview w/ SME
Previous or current knowledge / experience of / with topic area	Example: All - have been using Adobe Contribute at least one year.	• Interview w/ SME
Attitudes toward content	Generally excited about learning the skill that will allow them to update their own webpages.	• Interview w/ SME
Attitudes toward organization and training Division	Learners generally trust the Ed Tech department.	• Interview w/ SME

Motivation for Instruction (ARCS)	**Attention:** SME reports that learners maintain high attention rates when the material is engaging. Dividing topics into manageable portions helps maintain attention on a given topic. **Relevance** The learners will have to use the knowledge and skills immediately in their jobs, thus the topic is very relevant to their job performance. **Confidence** 80% of learners have high level of confidence in their ability to learn the new skills. However, the other 20% are somewhat intimidated by the interface upon first viewing it. **Satisfaction** All learners are satisfied if they can experienced success and know that they will be able to do their job more effectively when editing and creating web pages on their own.	• Interview w/ SME
Attitudes Towards potential delivery system	Learners really enjoy face-to-face learning sessions but would appreciate a supplementary self-directed learning module to refresh skills.	• Interview w/ SME

INSTRUCTIONAL ENVIRONMENT / CONTEXT

Managerial supervisory support	GAs and staff in Watson can call and email Krystine, and they do all the time. Other departments depend on ITS for support.	• Interview w/ SME
Availability of needed technology **Hardware** **Software**	Computers and internet access will be provided in each learner's office in accordance with their employee position.	• Interview w/ SME
Availability of needed Resources	Support will be available by phone and email, and supplementary training material will be available via a website.	• Interview w/ SME

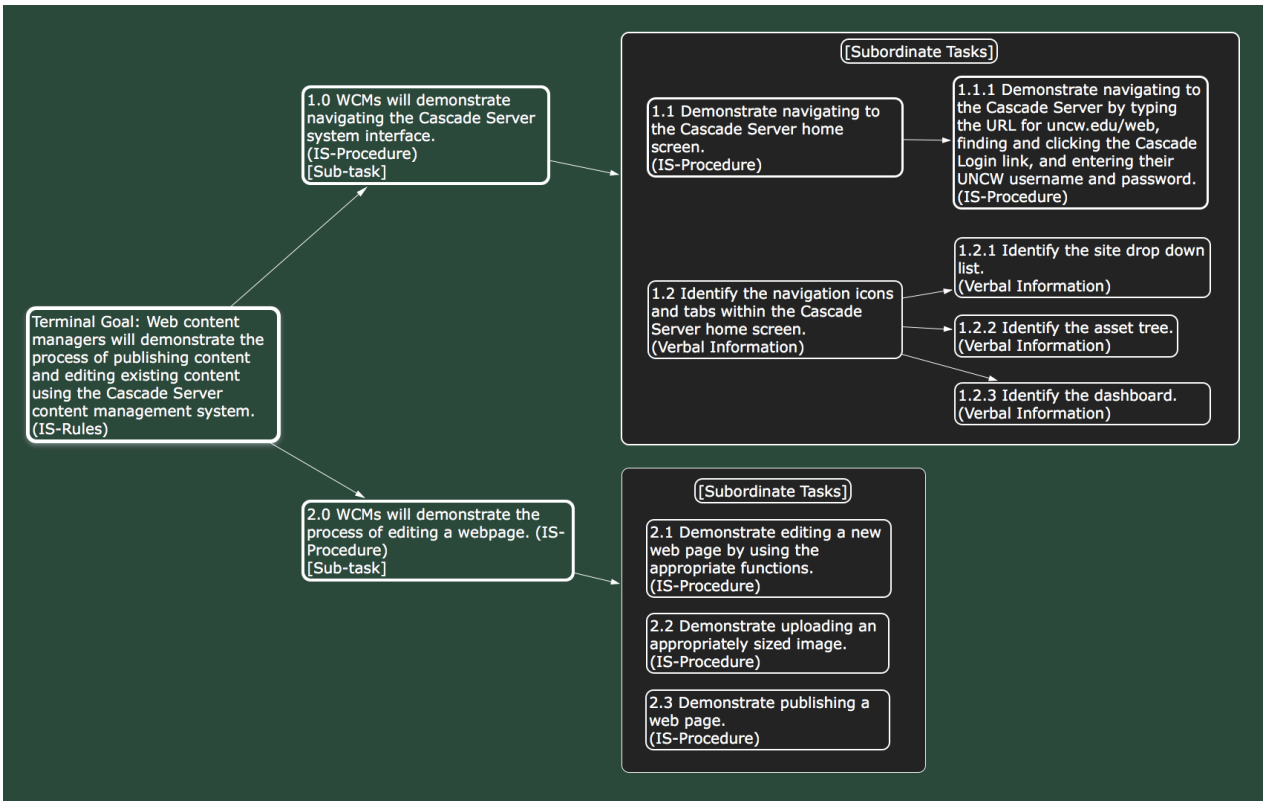
Physical aspects of site for implementation	GAs and staff will be performing the majority of their work in their offices but can also do it from home. All they need is a computer.	• Interview w/ SME
Social aspects of site	GAs and staff usually work alone. They don't have helpers because they *are* the helpers.	• Interview w/ SME
Relevance of skills to workplace	The Cascade Server skills will directly transfer to the primary work the GAs and staff will be performing for web content management.	• Interview w/ SME

SECTION 2: NEEDS ANALYSIS AND INSTRUCTIONAL GOALS

Actual Performance	The instructional designers conducted an interview with the primary subject matter expert overseeing the current face-to-face training sessions. According to her observations, when UNCW Web Content Managers (WCMs) in training are given the new application –Cascade— for updating and creating content, they cannot do the following: • Navigate the application and its features, • Navigate to upload files and place them in appropriate folder, • Insert content on the proper web pages and format it • Creating new pages • Properly size images for display
Optimal Performance	Cascade is a new application that was adopted to replace Adobe Contribute. Thus, it is expected that WCMs can use the new tool to create and update content for the websites they are responsible for maintaining. As with the previous tool, WCM should be able to edit the existing content on the websites, add new content and delete previous content. Overall, the expectation is that the WCM will manage and edit one's website without any errors and in a timely manner and produce an accessible and readable website to serve one's particular audiences.
Needs	• WCMs need to readily log in to the Cascade server. • WCM need to discriminate between different webpage templates—home page and content page. • WCMs need to edit each element within a given template. • WCMs need to create and edit their respective UNCW website(s).
Solutions	• Design a self-directed e-learning module to teach the above needed knowledge and skills. • Have WCMs complete module. • Have WCMs submit sample page to web master for review.
Training Goals	Terminal Goal: WCMs will create content and edit existing content using Cascade content management tool (IS-Rules) Target goals 1. WCMs will demonstrate navigating the Cascade Server system interface. (IS-Procedure) 2. WCMs will demonstrate the process of editing a webpage. (IS-Procedure) 3. WCMs will create and publish new webpages in a website. (IS-Procedure)

SECTION 3: TASK ANALYSIS

The following is the updated task analysis.



REPORT II

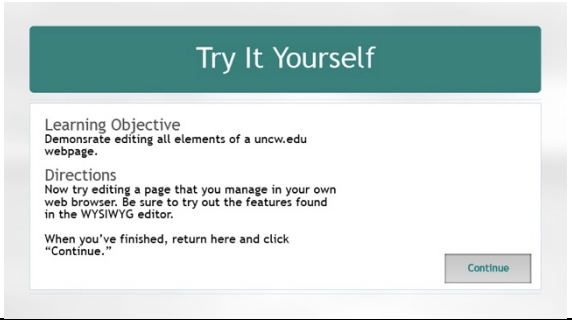
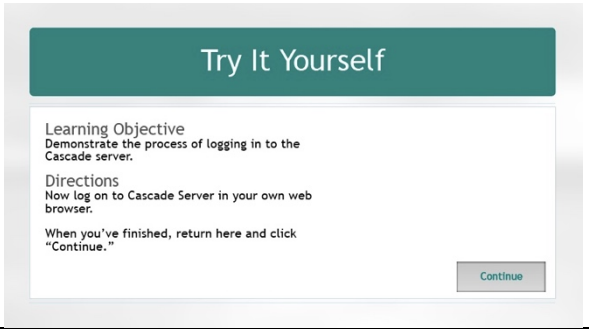
SECTION 1: PERFORMANCE OBJECTIVES & ASSESSMENT

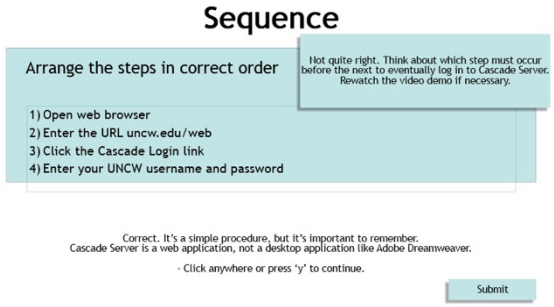
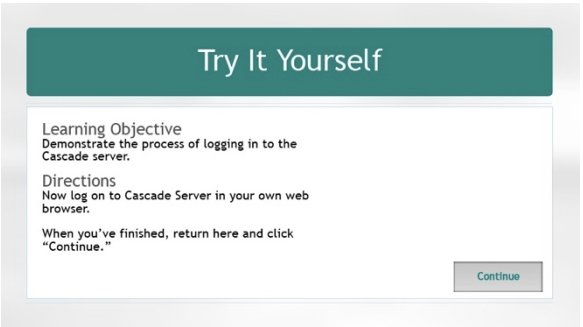
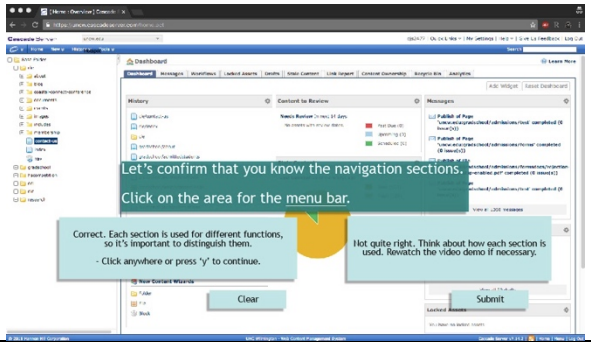
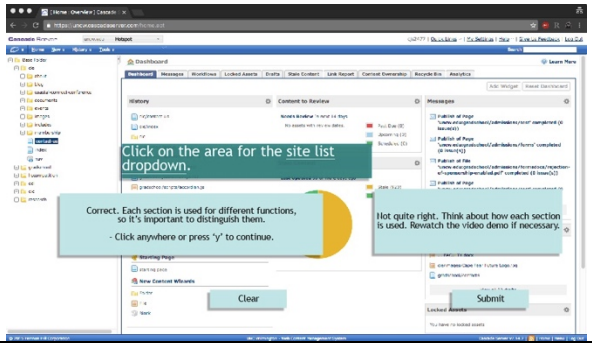
As per Dick & Carey's recommendations, the instructional designers revised the performance objectives and assessment items in accordance with new information they encountered during the development process. Previously the performance objectives were broken down into such minute steps in a procedure as to risk being condescending to an adult learner. The performance objectives and assessment items now reflect the learner's expected education and aptitude level based on findings gleaned from the learner and context analysis.

On another note, the assessment items listed below are practice prompts and knowledge-check exercises within the tutorial. Knowledge-check exercises would have been turned into graded quiz questions within Adobe Captivate in the event that the instructional designers were able to upload the course to a learning management system so the data could be collected.

So instead, the official assessments for the pretest and posttest that the instructional designers used came in the form of self assessments via Google Forms.

PART 1 & 2: PERFORMANCE OBJECTIVES & ASSESSMENTS

Performance Objective	**Assessment Item**
Terminal Goal: Given a computer with internet access and the task of creating and editing content in Cascade, web content managers will demonstrate the procedure of publishing content and editing existing content by using the Cascade server content management with zero error upon web publication.	Performance Task on Slide 34 
Subtask 1.0: Given a computer with internet access and the task of navigating the Cascade Server interface, web content managers will demonstrate navigating the Cascade Server interface by selecting the appropriate functions to arrive at the Dashboard—from which they will navigate to the content files—with zero error.	Performance Task on Slide 10 

Subordinate Task 1.1: Given a web browser, web content managers will demonstrate navigating to the Cascade Server home screen by following the appropriate procedure with zero error.	Criterion-Referenced Item on Slide 9 
Subordinate Task 1.1.1: Given a web browser, web content managers will demonstrate navigating to the Cascade Server by typing the URL for uncw.edu/web, finding and clicking the Cascade Login link, and entering their UNCW username and password with zero error.	Performance Task on Slide 10 
Subordinate Task 1.2: Given the Cascade Server home screen, web content managers will identify the navigation icons and tabs within the Cascade Server home screen by discriminating amongst the options with zero error.	Criterion-Referenced Item on Slide 19 
Subordinate Task 1.2.1: Given the Cascade Server home screen, web content managers will identify the site drop down list within the Cascade Server home screen by discriminating amongst the options with zero error.	Criterion-Referenced Item on Slide 22 
Subordinate Task 1.2.2: Given the Cascade Server home screen, web content managers will identify the asset tree within the Cascade Server home screen by discriminating amongst the options with zero error.	Criterion-Referenced Item on Slide 20

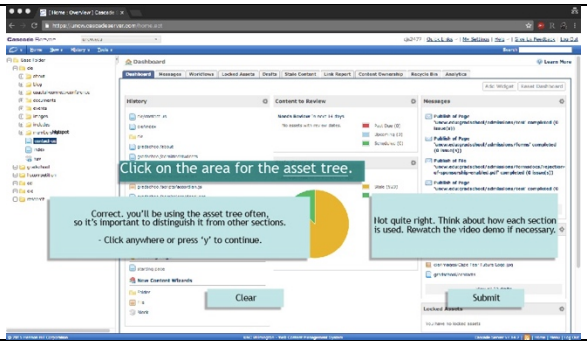
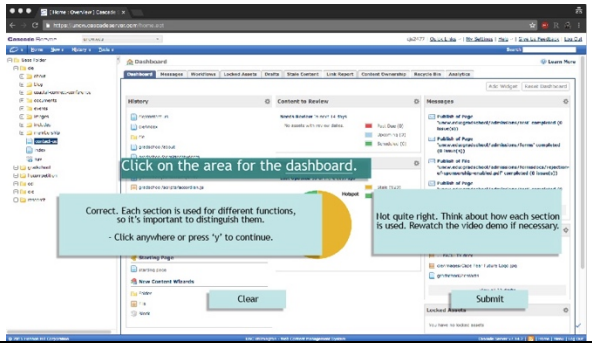
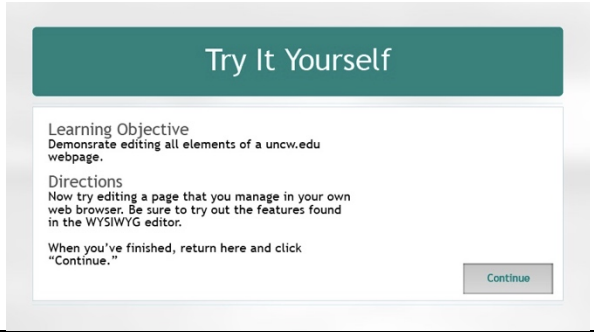
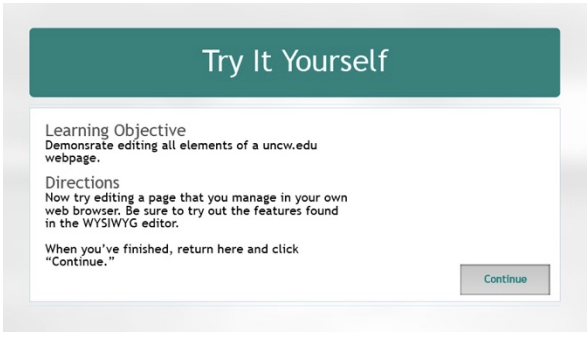
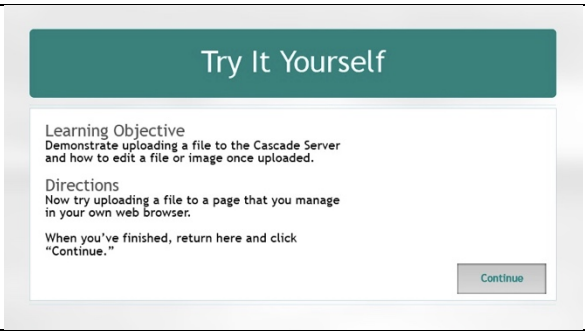
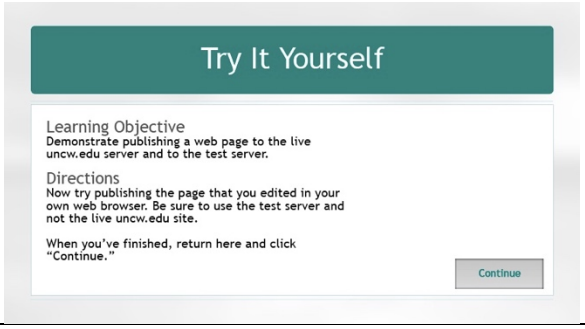
	
Subordinate Task 1.2.3: Given the Cascade Server home screen, web content managers will identify the dashboard within the Cascade Server home screen by discriminating amongst the options with zero error.	Criterion-Referenced Item on Slide 21 
Subtask 2.0: Given the Cascade home screen, web content managers will demonstrate creating and editing a web page by using the appropriate functions within Cascade Server with zero error.	Performance Task on Slide 34 
Subordinate Task 2.1: Given the Cascade home screen, web content managers will demonstrate editing a new web page by using the appropriate functions (selecting the "uncw.edu" folder, selecting a page in the asset tree, selecting the "Edit" tab, editing content by using the WYSWYG editor, and submitting changes by selecting the "Submit" button) within Cascade Server with zero error.	Performance Task on Slide 34 
Subordinate Task 2.2: Given the "images" folder in Cascade, web content managers will demonstrate uploading an appropriately sized image by using the menu bar to create a new file, typing in appropriate meta data, choosing the file to upload, cropping the	Performance Task on Slide 41

image to 1000 x 332 pixels, and submitting changes to the Cascade Server.	
Subordinate Task 2.3: Given the view page, web content managers will demonstrate publishing a web page by selecting the publish button, selecting uncw.edu server, and selecting the "Publish" button with zero percent error.	Performance Task on Slide 37 

PART 3: INSTRUCTIONAL STRATEGIES

DESCRIPTION OF INSTRUCTIONAL STRATEGY

"Web Content Manager Training" is a self-directed learning module following the direct instruction model. The instructional designers used the five major learning components recommended by Dick and Carey: pre-instructional activities, content presentation and learner guidance, learner participation, assessment, and follow-through activities. The protocol was followed in relation to intellectual skills as the learning outcome.

Below is a more detailed account of how the strategy was implemented.

CRITICAL COMPONENTS OF INSTRUCTIONAL STRATEGY

PRE-INSTRUCTIONAL ACTIVITIES:

Provide for motivation: attention, relevance, confidence, satisfaction

- The module begins with a welcoming, friendly voice.
- The Cascade Overview slide explains the relevance of learning Cascade to web content managers, since it clarifies how it helps users manage multiple pages without having to

learn how to code for the web. This also reduces potential intimidation with learning a web technology.
- A slide on module navigation makes it clear how to use the navigation options available to the learner.

Inform learner of objectives

- The Training Overview slide informs the learner of what they will learn in the module and how much time investment to anticipate.

Promote recall of prerequisites

- The Cascade Overview slide provides an overview of what Cascade Server is and what a web content management system is.

Link new content to existing knowledge/skills

- The Cascade Overview slide provides the official name (responsive design) to the familiar concept of content adjusting to the size of a web user's device or browser window.

CONTENT PRESENTATION AND LEARNER GUIDANCE:

Sequence based on hierarchy among skills

- Because the skills are mostly procedural, the module's lessons were sequenced chronologically in accordance with what the learner needed to know during a given point of the procedure.

Disclose distinguishing characteristics of concepts (physical, purpose, qualities, etc.)

- Distinctions are made on an as-needed basis among items within the Cascade navigation sections, the site list dropdown, the content edit tabs, and a live content page.

Point out common errors in classifying

- The learner is presented with knowledge-check exercises that prompt the learner to make distinctions between navigation and page layout elements that are easy to mix up.

Provide examples and nonexamples

- The learner is provided with examples of every procedure through a video demonstration.

- Nonexamples are not provided for most sections due to irrelevance. However, the Uploading Files Tutorial does provide an example of an image that is not properly sized for a UNCW web banner and must be cropped by the web content manager using the editing tools within Cascade.

Create ways of organizing new into existing skills

- The instructor provides clear organizational guidance for each lesson that involves an interface that the learner must understand. This is especially evident and relevant in the Webpage Elements lesson and the Editing a Page lesson that follows. The organizational guidance assists the learner in understanding how each section in the edit page in Cascade corresponds to a webpage element on a live page.

LEARNER PARTICIPATION

Ensure congruence of practice to conditions and behaviors

- The user completes the module using a computer and web browser, which are the same tools the user must also use to perform job tasks as a web content manager. The user is also meant to follow along with each procedural step using the real Cascade Server.

Progress from less to more difficult

- As mentioned in the previous section, lessons are sequenced chronologically according to the procedures a web content manager would realistically need to follow to reach various pages and functions, But the sequence does happen to coincide with increasing levels of difficulty—from the basic task of logging in to Cascade to the more complex task of editing content on a webpage.

Use familiar contexts for rehearsal

- The familiarity of the context could not be controlled, since the learner must use a specific web application, Cascade Server, as part of the learning objectives. However, the interface will be somewhat familiar for those who have used Adobe Contribute, UNCW's previous web content management system.

Provide conditions similar to performance context

- For each procedure that the learner must perform on the job, a Try It Yourself slide provides an opportunity for the user to perform the actual task after having watched a video demonstration and completed some practice exercises meant to improve understanding.

Ensure feedback is balanced with qualities and errors

- All feedback is explanatory rather than corrective or normative. For every incorrect answer, the learner is provided with a hint as to: why the answer is incorrect, how to figure out the correct answer, or where the correct answer is located in the module. For every correct answer, the learner is provided with either the reason for why it is correct or the reason why the correct answer is important to understand and remember.

ASSESSMENT:

Ensure learners' readiness for testing

- The posttest is not in any way intimidating or complex. Each learner should be able to complete it without complication once having gone through each previous slide in the module.

Accommodate hierarchical nature of skills

- The nature of the pretest and posttest is self-reported assessment, mostly consisting of yes or no questions asking the learner to confirm capability of completing the procedure or task. This is appropriate for the procedural nature of the performance objectives and the self-directed nature of the module.

Apply appropriate criteria for learner age, ability

- The pretest and posttest questions align with the performance expectations of learners hired to train as web content managers, which invariably includes people holding at least a bachelor's degree.

FOLLOW-THROUGH

Promote transfer (authentic tasks to performance context)

- Each one of the key job tasks a web content manager must perform—logging in, navigating the Cascade Server interface, editing pages, publishing pages, and uploading and sizing images—has a worked example and practice exercises provided for the learner to promote transfer of new knowledge and skills.

Consider memory requirements

- The learner must remember certain key distinctions between sections of Cascade and functions within. Each time there was an important element to remember, a knowledge check exercise was provided.

Consider job aid requirements

- A web content manager will not require a job aid to remember the most procedures as they will become very routine and a part of the practitioner's mental model. However, at the end of the module, the learner is provided with a list of resources, which includes a quick reference for key information, like Cascade's interface, webpage elements, and UNCW's web publishing guidelines.

Ensure job environment receptive

- Each web content manager is being trained for a position within their respective department, and their department is expecting the WCM to arrive with the knowledge and skills provided in the module.

Reflect on learning experience and future applications

- There will not be much difference between the content provided in the module and the job context. The procedural skills are near transfer.

REPORT III

SECTION 1 EVALUATION

PART 1: RESULTS OF EVALUATION: ONE-TO-ONE

PROCESS AND PROCEDURES

The one-to-one evaluation of the tutorial involved one test learner. The module was self-directed and taken asynchronously, meaning that instructors were not present while learners used the module, so effective and clear communication became vital.

Learners were provided with a link to the material via a shared folder on Google Drive. Users downloaded the folder and opened the module on their end. A message accompanied the link providing the contact information for the instructional designers and informing learners that they were available to help with any issues. Unbeknownst to the instructional designers, when the folder is downloaded from Google Drive, it is compressed into a zip file. Consequently, one of the learners became confused and was unable to launch the module until receiving help from one of the instructional designers with extracting the module from the compressed file and then properly launching it. The other learner was unable to resolve the issue, even with guidance. In response to this issue, the message to future learners was updated to include instructions for extracting the zip file contents before attempting to load the appropriate module file in a web browser.

Within the module, the learner took a pretest, posttest, and attitude survey, the results of which were recorded via Google Forms. The pretest and posttest involved self-reporting for the completion of the performance tasks. Upon completion, the learner was provided with resources for further help and knowledge on Cascade Server.

LEARNERS

The one-to-one evaluation was initially set to involve two learners, one of whom was familiar with Cascade Server and another who was not. Both were college educated, holding at least a bachelor's degree. The learners were selected based on their differing levels of experience with Cascade. However, the experienced learner (experienced with Cascade Server but not advanced in computer savvy) was unfortunately unable to resolve technical issues with getting the module to work.

MATERIALS

Learners were given a self-directed module developed in Adobe Captivate. It was to be opened in a web browser, which a learner could also use to complete the performance objectives in Cascade Server.

For the pretest, posttest, and attitude survey, a Google Form was embedded into each respective module slide as a web object, so the learner could fill out and submit the form without leaving the module. The instructional designers compared the results of the pretest and posttest.

RESULTS

The data collected appear in the tables below with an explanation accompanying each table.

ONE-TO-ONE PRETEST RESULTS

Goal	Items	Learner 1	Objectives Correct	
			#	%
Subtask 1.0: Demonstrate navigating the Cascade Server interface by selecting the appropriate functions to arrive at the Dashboard—from which they will navigate to the content files—with zero error. (aka Logging In)	1	0	0	0
Subordinate Task 1.2: Identify the navigation icons and tabs within the Cascade Server home screen by discriminating amongst the options with zero error.	4	3*	3	75
Subtask 2.0: Demonstrate creating and editing a web page by using the appropriate functions within Cascade Server with zero error.	1	0	0	0
Subordinate Task 2.2: Demonstrate uploading an appropriately sized image by using the menu bar to create a new file, typing in appropriate meta data, choosing the file to upload, cropping the image to 1000 x 332 pixels, and submitting changes to the Cascade Server.	1	0	0	0
Subordinate Task 2.3: Demonstrate publishing a web page by selecting the publish button, selecting uncw.edu	1	0	0	0

server, and selecting the "Publish" button with zero percent error.				

*Learner 1 may have misunderstood that the question asking the learner to checkmark the navigation sections they were familiar with meant specifically in Cascade Server. The expected performance on this item was 0 out of 4.

Commentary on Pretest Results: While there were only two main performance objectives, the instructional designers made an executive decision to measure the essential subordinate tasks as well in the pretest and posttest. Question 2 is the only one with multiple items, since it gave the option to checkmark up to four navigation sections.

On another note, one learner misinterpreted one of the questions, as noted beneath the table. Other learners in the small group evaluation were not confused by the same phrasing of the question, but the sample size is small. A future revision would be to clarify that the question applies specifically to the navigation sections of Cascade Server.

Appendix B shows each test question and its corresponding performance objective.

ONE-TO-ONE POSTTEST RESULTS

Goal	Items	Learner 1	Objectives Correct	
			#	%
Subtask 1.0: Demonstrate navigating the Cascade Server interface by selecting the appropriate functions to arrive at the Dashboard—from which they will navigate to the content files—with zero error. (aka Logging In)	1	1	1	100
Subordinate Task 1.2: Identify the navigation icons and tabs within the Cascade Server home screen by discriminating amongst the options with zero error.	4	4	4	100
Subtask 2.0: Demonstrate creating and editing a web page by using the appropriate functions within Cascade Server with zero error.	1	1	1	100
Subordinate Task 2.2: Demonstrate uploading an appropriately sized image by using the menu bar to create a new file, typing in appropriate meta data,	1	1	1	100

choosing the file to upload, cropping the image to 1000 x 332 pixels, and submitting changes to the Cascade Server.				
Subordinate Task 2.3: Demonstrate publishing a web page by selecting the publish button, selecting uncw.edu server, and selecting the "Publish" button with zero percent error.	1	1	1	100

Commentary on Posttest Results: While the instructional designers ultimately ended up with one learner, it was a novice, which gave them a good idea of how beginning learners would perform after the module. The module proved effective enough for the novice learner to confirm the ability to complete all of the performance objectives during the posttest. This

ONE-TO- ONE LEARNER PERFORMANCE ON PRE-AND POST-TEST BY OBJECTIVE

Objectives	1.0		1.2		2.0		2.2		2.3	
Test	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1 on 1 Learner 1	0	1	3	4	0	1	0	1	0	1
% Mastery	0%	100%	75%	100%	0%	100%	0%	100%	0%	100%
Difference Gain Score	100		25		100		100		100	

Commentary on Results by Objective: Due to the aforementioned confusion over Question 2, the difference gain score for that item is unreliable. However, the other gains were promising, proving the module ready for small group testing.

ONE-TO-ONE LEARNER ATTITUDE SURVEY

Question	**Response**

Did the instruction hold your attention? Metric: Scale of 1 to 5 1 = Very Much* 5 = Not Very Much*	**Learner 1:** • 1
Was the instruction too long or too short? Metric: Scale of 1 to 5 1 = Too Short 5 = Too Long	**Learner 1:** • 3
Was the instruction too easy or too difficult? Metric: Scale of 1 to 5 1 = Very Easy 5 = Very Difficult	**Learner 1:** • 3
Did you have problems with any parts of the module? Metric: Yes or No	**Learner 1:** • No
If you did have problems with any part or parts of the module, please explain below.	**Learner 1:** • N/A
Were the graphics in the module appropriate or distracting? Metric: Scale of 1 to 5 1 = Very Appropriate 5 = Very Distracting	**Learner 1:** • 2
What did you like the most?	**Learner 1:** • The instruction was clear and understandable
What did you like the least?	**Learner 1:** • The information was very dense
How would you change the instruction if you could?	**Learner 1:** • Nothing
Did the assessments measure the material that was presented? Metric: Yes or No	**Learner 1:** • Yes
Would you prefer another instructional medium? Metric: Yes or No	**Learner 1:** • No
If you answered "yes" on the previous question, please indicate what type of instructional medium you would prefer.	**Learner 1:** • N/A

Additional Comments	Learner 1: • The module was easy to understand and clear. If your learners do not know much knowledge about technology they maybe a little lost by technology terms such as Widgets because it wasn't explained what the term was. If your learners know about technology that's not a issue. I liked the spacing of the knowledge checks in the beginning but closer to the end it may have helped break the information up to add more knowledge checks, with more questions in between information being given in the module.

*Only in hindsight did the instructional designers realize how the characteristics assigned to the scale could be confusing. On a scale of 1 to 5, 1= very much and 5=not very much, which is the opposite of how people may instinctively answer the question. So the results of this question may be unreliable.

Commentary on Attitude Survey: The phrasing of the first question here was potentially confusing, but the learner appears to have found the module satisfactory. The learner did, however, point out that a learner not familiar with technology might not be familiar with one of the technical terms that was mentioned but not explained. The learner analysis did show that some web content managers are not tech savvy, so this concern may be legitimate. Unfortunately, there was not enough time between the one-to-one and small group evaluations to add a new slide or re-record the video demonstration that mentions widgets.

The learner also would have preferred more knowledge checks near the end and to have the final sections broken down into even smaller portions. This is understandable and contrary to the instructional designers' expectations. The IDs were concerned that there might be *too many* knowledge checks and did not want to overwhelm learners and disrupt the flow of the module. This learner's point, however, will be taken into consideration for future revision.

PART 2: RESULTS OF EVALUATION: SMALL GROUP

PROCESS AND PROCEDURES

Due to the self-directed and internet-based nature of the learning module, the conditions for the small group evaluation were the same as those for the one-to-one evaluations. Learners

took the module asynchronously using their own computers or those in their offices. Once again, they were sent a link to download the folder containing the module, and they completed the pretest, posttest, and attitude survey within the module.

LEARNERS

The instructional designers were able to secure two learners for the small group evaluation, one who was familiar with Cascade Server, and one who was not. Just as in the one-to-one evaluations, both were college educated, holding at least a bachelor's degree. The learners were selected based on their differing levels of experience with Cascade.

MATERIALS

The materials were the same as those used in the one-to-one evaluations: the learner's computer, internet, and a self-directed module developed in Adobe Captivate to be opened in a web browser.

RESULTS

The data collected appear in the tables below with an explanation accompanying each table.

SMALL GROUP PRETEST RESULTS

Goal	Items	Learner 1	Learner 2	Objectives Correct	
				#	%
Subtask 1.0: Demonstrate navigating the Cascade Server interface by selecting the appropriate functions to arrive at the Dashboard—from which they will navigate to the content files—with zero error. (aka Logging In)	1	0	1	1	50
Subordinate Task 1.2: Identify the navigation icons and tabs within the Cascade Server home screen by discriminating amongst the options with zero error.	4	0	4	4	50
Subtask 2.0: Demonstrate creating and editing a web page	1	0	1	1	50

by using the appropriate functions within Cascade Server with zero error.					
Subordinate Task 2.2: Demonstrate uploading an appropriately sized image by using the menu bar to create a new file, typing in appropriate meta data, choosing the file to upload, cropping the image to 1000 x 332 pixels, and submitting changes to the Cascade Server.	1	0	1	1	50
Subordinate Task 2.3: Demonstrate publishing a web page by selecting the publish button, selecting uncw.edu server, and selecting the "Publish" button with zero percent error.	1	0	1	1	50

Commentary on Pretest Results: In this evaluation, Learner 1 was the novice user and Learner 2 as the experienced web content manager. The outcomes of the pretest for each learner was as expected. Learner 1 had no prior knowledge of web content management, while Learner 2 did and also had experience with Cascade Server.

SMALL GROUP POSTTEST RESULTS

Goal	Items	Learner 1	Learner 2	Objectives Correct	
				#	%
Subtask 1.0: Demonstrate navigating the Cascade Server interface by selecting the appropriate functions to arrive at the Dashboard—from which they will navigate to the content files—with zero error. (aka Logging In)	1	1	1	2	100
Subordinate Task 1.2: Identify the navigation icons and tabs within the Cascade Server home screen	4	4	4	8	100

by discriminating amongst the options with zero error.					
Subtask 2.0: Demonstrate creating and editing a web page by using the appropriate functions within Cascade Server with zero error.	1	1	1	2	100
Subordinate Task 2.2: Demonstrate uploading an appropriately sized image by using the menu bar to create a new file, typing in appropriate meta data, choosing the file to upload, cropping the image to 1000 x 332 pixels, and submitting changes to the Cascade Server.	1	1	1	2	100
Subordinate Task 2.3: Demonstrate publishing a web page by selecting the publish button, selecting uncw.edu server, and selecting the "Publish" button with zero percent error.	1	1	1	2	100

Commentary on Posttest Results: Based on the results from the one-to-one evaluation, these results in the small group evaluation were expected. Both learners confirmed the ability to complete the performance objectives.

SMALL GROUP LEARNER PERFORMANCE ON PRE-AND POST-TEST BY OBJECTIVE

Objectives	1.0		1.2		2.0		2.2		2.3	
Test	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1 on 1 Learner 1	0	1	0	4	0	1	0	1	0	1
1 on 1 Learner 2	1	1	4	4	1	1	1	1	1	1
% Mastery	50%	100%	50%	100%	50%	100%	50%	100%	50%	100%

Difference Gain Score	50	50	50	50	50

Commentary on Results by Objective: The gain difference was as expected, although a larger sample size would be more illuminating. This will be taken into consideration after future revision.

SMALL GROUP LEARNER ATTITUDE SURVEY

Question	Response
Did the instruction hold your attention? Metric: Scale of 1 to 5 1 = Very Much* 5 = Not Very Much*	**Learner 1:** • 3 **Learner 2:** • 3
Was the instruction too long or too short? Metric: Scale of 1 to 5 1 = Too Short 5 = Too Long	**Learner 1:** • 3 **Learner 2:** • 3
Was the instruction too easy or too difficult? Metric: Scale of 1 to 5 1 = Very Easy 5 = Very Difficult	**Learner 1:** • 3 **Learner 2:** • 2
Did you have problems with any parts of the module? Metric: Yes or No	**Learner 1:** • No **Learner 2:** • No
If you did have problems with any part or parts of the module, please explain below.	**Learner 1:** • N/A **Learner 2:** • N/A

Were the graphics in the module appropriate or distracting? Metric: Scale of 1 to 5 1 = Very Appropriate 5 = Very Distracting	**Learner 1:** • 4 **Learner 2:** • **1**
What did you like the most?	**Learner 1:** • Nice narration **Learner 2:** • Colton
What did you like the least?	**Learner 1:** • Very dry material, but will be helpful to have a job aid to refer to. **Learner 2:** • N/A
How would you change the instruction if you could?	**Learner 1:** • [No response] **Learner 2:** • hmmm...I wrote a word document as I was going through it. I will send to Colton. (See Appendix C)
Did the assessments measure the material that was presented? Metric: Yes or No	**Learner 1:** • Yes **Learner 2:** • Yes
Would you prefer another instructional medium? Metric: Yes or No	**Learner 1:** • Yes **Learner 2:** • No
If you answered "yes" on the previous question, please indicate what type of instructional medium you would prefer.	**Learner 1:** • I would suggest in addition to this presentation to have a job aid.

	Learner 2: • N/A
Additional Comments	**Learner 1:** • [No response] **Learner 2:** • [No response]

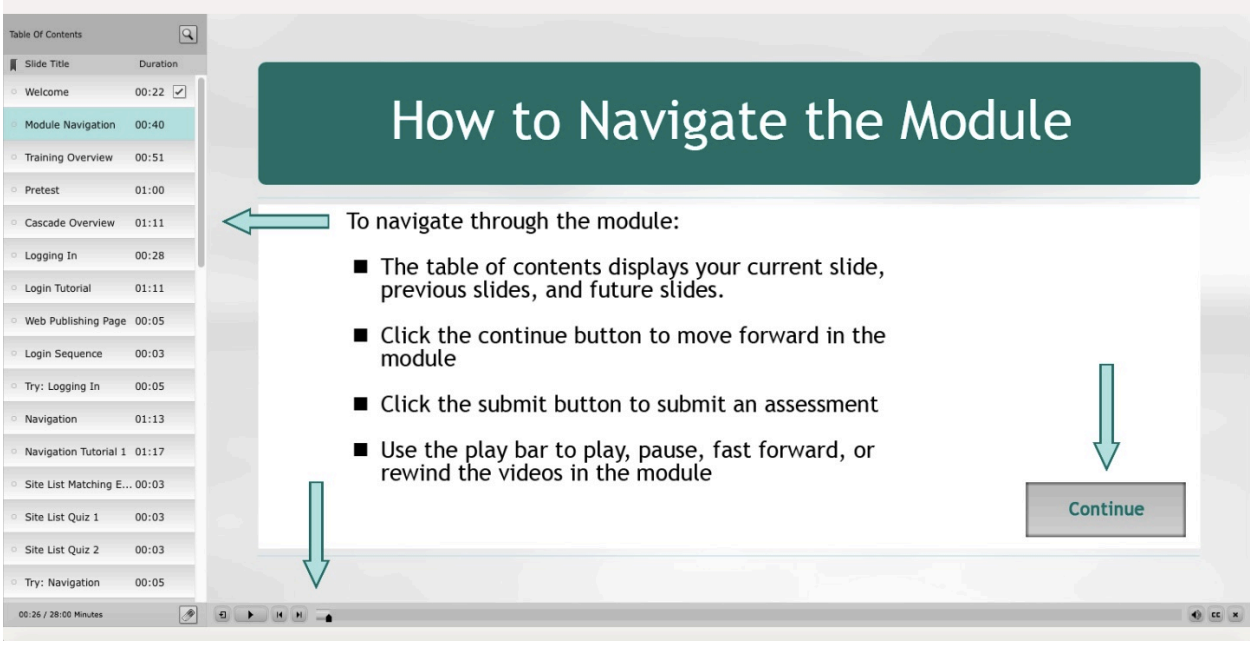
Commentary on Attitude Survey: Learner 1 suggested that the module include a job aid without awareness that one existed on UNCW's Web Publishing page. The module ends with information on further resources for web content managers, so instructional designers were not concerned that web content managers would not be able to find it.

Learner 2 provided a detailed report of suggestions. It included some proofreading errors and some aesthetic design suggestions. A couple issues may have resulted from the module not running properly on the learner's computer. For instance, the comment made on the Login Tutorial slide suggests that the video demo did not play in its entirety and may have frozen on the first frame. The comment on the Web Publishing Page highlighted an error that was previously fixed but not in the version received by Learner 2. And some commentary can be attributed to the limited functionality of Adobe Captivate or the limited experience of the instructional designers in using it. Overall, all commentary will be taken into consideration during future revision.

SECTION 2

PART 1: CODING

The following slide is the one used to instruct the learner on how to navigate the module.



PART 2: LOG & EXPERIENCES

Meeting and Interview with Client: 2 hours

Most communication with the client was done through email. The interview conducted for the learner and contact analysis was done in person.

Needs Assessment: 5 hours

The instructional designers collaborated in Microsoft Word on the design and writing of the needs assessment. They met in person to discuss each section, making distinction between each one. The first draft was submitted to Dr. Mahnaz Moallem for review and revised during another meeting between the instructional designers.

Task Analysis: 12 hours

The instructional designers collaborated on the design and writing of the task analysis, first starting a draft in Microsoft Word, then switching to a mind-mapping software application

called Scapple for a more intuitive interface and faster production rate. Breaking down the tasks and deciding on the proper sequence for listing the tasks took a good deal of trial and error.

Furthermore, the task analysis needed revision multiple times throughout the design and development process as new knowledge and considerations came up. A draft was submitted to Dr. Moallem for review and was revised based on her feedback. The task analysis was revised again after creating the prototype of the module in Adobe Captivate and seeing more concretely how the tasks and sequence needed to be laid out.

Performance Objectives: 3 hours

Having spent such a great deal of time on the task analysis, the instructional designers found it a bit easier to create the performance objectives. They collaborated through the online version of Microsoft Word so they could both contribute to the document in real time.

Module Development: 60 hours

The tasks involved in developing the module in Adobe Captivate were split between the two instructional designers. The first instructional designer took on the bulk of production due to his greater access to and familiarity with Cascade Server. This work included: writing the scripts, recording the video demonstrations, performing narration, creating the overview slides, and the aesthetic design. The second instructional designer was responsible for creating the knowledge-check exercises throughout the module by reviewing the video demos, ensuring explanatory feedback for all exercises, creating extra informational slides to fill in knowledge gaps and supplement the video demos, creating the self-reporting performance task prompts, updating the table of contents, and editing the text and flow of the module.

Assessment Items: 2 hours

There was much discussion over how to approach assessment. One instructional designer created the pretest and posttest using the performance objectives, while the other created the attitude survey. All items were created in Google Forms.

Reports: 25 hours

Since the first instructional designer performed the majority share of development, the second instructional designer took on the task of documenting the work performed for the project.

One-to-One Evaluations: 4 hours

The instructional designers acquired two participants for the one-to-one evaluation, with only one participant able to complete the module. The ID responsible for documentation took on the task of reviewing the pretest, posttest, and attitude survey and documenting the results.

Small Group Evaluation: 4 hours

Both team members acquired participants for evaluation. The instructional designer responsible for documentation took on the task of reviewing the pretest, posttest, and attitude survey and documenting the results.

APPENDIX

APPENDIX A: INTERVIEW WITH CLIENT

Interview with Client
(Senior Web Developer)
11/09/2016

LEARNER ANALYSIS QUESTIONS

1) **entry skills: We can assume that a learner coming into the course needs to know how to use a computer, surf the web, and type. What are some other entry skills that a learner might need?**
   - Organizational skills because Cascade is specific about where you upload files.
2) **prior knowledge of the topic area: What prior knowledge about content management systems do users typically have?**
   - Typically have no knowledge. "Lucky if they know copy/paste shortcuts."
3) **attitudes toward content and potential delivery system:**
   - **What are your learners' attitudes toward the task of content management and learning about a new content management system prior to the course?**
     - Generally excited about learning the skill that will allow them to update their own website. They do get a little frustrated once they get into learning it and doing it. The new system feels redundant.
   - **In one of your emails, you mentioned that a self-directed learning module would not work for most of your learners. How receptive do you think your learners would be to a supplementary tutorial that they can use to revisit what they learned in the face-to-face lesson?**
     - Danielle does basic training and has advanced training that you can complete on your own.
     - A couple staff members went further and did the advanced training because they're heavy users.
     - A refresher would be valuable.
4) academic motivation:
   - **How much do your learners *intrinsically* motivated to learn content management beyond their *need* or obligation to learn it?**
     - The GAs are more excited and curious. The staff just *need* the skills.
   - **How confident do your learners typically feel going in?**
     - They're confident they can learn it.
5) **educational and ability levels:**
   - GAs are graduate students. Half the admin associates have masters. They all have at least bachelors' degrees.
6) **general learning preferences: How familiar are your learners with self directed e-Learning modules?**

- They might be familiar, since some of the staff already take some of the Skillport courses for MS Office.

7) **attitudes toward the organization giving the instruction: How conscious do you think your learners are of the department providing the instruction? And do you know how your learners feel about the department?**
   - In face-to-face courses, it matters who trains them because they want to feel comfortable with them.
8) **group characteristics**
   - **Where do your learners come from?**
     - Mostly staff and grad assistants. No faculty.
     - Learners are only from Watson.
     - Krystine doesn't think other departments do training. They might rely on ITS.
   - **Which employees need to learn the content management system?**
     - Usually it's the GAs, staff, administrative assistants. Faulty generally don't update content themselves.
     - Faculty usually hands off CMS to other personnel.
   - **Are there different degrees of interaction that your learners will have with the CMS?**
     - They all get the same permissions and perform the same tasks. So they must achieve the same skill level.

CONTEXT ANALYSIS QUESTIONS

1) **Managerial or Supervisor Support: How much support will learners have when they're actually working with the CMS?**
   - GAs and staff can call and email Krystine, and they do all the time.
   - Other Departments depend on ITS for support. Those in Watson are able to call Krystine.
2) **Physical Aspects of the Site: Where will learners be using these skills on the job?**
   - GAs and staff will be performing the majority of their work in their offices but can also do it from home. All they need is a computer.
3) **Social Aspects of the Site: Will learners be working in teams or independently when working in the CMS on the job?**
   - They usually work alone. They don't have helpers because they *are* the helpers.
4) **Relevance of Skills to Workplace: How will learners be using the skills they learn?**
   - They will update their department websites. Most department pages have admissions information and requirements, faculty/staff profiles, program info pages. PDS (Professional Development System), the system the houses the school's interns, also have different content. Youth Programs has almost 200 pages: registration, summer camp package information, info for parents.

APPENDIX B: PRETEST AND POSTTEST QUESTIONS

PERFORMANCE OBJECTIVES AND RESPECTIVE TEST QUESTIONS

Performance Objective	Corresponding Test Question
Subtask 1.0: Demonstrate navigating the Cascade Server interface by selecting the appropriate functions to arrive at the Dashboard—from which they will navigate to the content files—with zero error. (aka Logging In)	Are you currently able to complete the procedure of navigating to UNCW's Web Publishing page and logging into Cascade Server? Metric: Yes or No
Subordinate Task 1.2: Identify the navigation icons and tabs within the Cascade Server home screen by discriminating amongst the options with zero error.	Please checkmark the navigation sections with which you are familiar. Options: • Site List Dropdown • Menu Bar • Asset Tree • Dashboard
Subtask 2.0: Demonstrate creating and editing a web page by using the appropriate functions within Cascade Server with zero error.	Are you currently able to complete the procedure for editing content on a web page using the WYSIWYG editor in Cascade Server? Metric: Yes or No
Subordinate Task 2.2: Demonstrate uploading an appropriately sized image by using the menu bar to create a new file, typing in appropriate meta data, choosing the file to upload, cropping the image to 1000 x 332 pixels, and submitting changes to the Cascade Server.	Are you currently able to complete the procedure for uploading and properly sizing images within Cascade? Metric: Yes or No
Subordinate Task 2.3: Demonstrate publishing a web page by selecting the publish button, selecting uncw.edu server, and selecting the "Publish" button with zero percent error.	Are you currently able to complete the procedure for publishing a page? Metric: Yes or No

APPENDIX C: SMALL GROUP LEARNER 2 SUGGESTIONS

Module Navigation Slide – Maybe highlight "Table of Contents", "Continue", "play bar", and example of going back and forth when you are talking about it. And/or put circles around the bullet points that the arrows are talking about and then have the arrows coming out of those circles pointing to the objects at hand..

Pretest Slide – Cascade is spelled wrong. And you may want to mention something about having to scroll down with the keyboard instead of the mouse (I was using a mac, so I don't know if that's thevcase in every scenario…but I had to use the keyboard to get the scrollbar to show up on the right handside).

Login Tutorial – That was a little weird because it was just a screenshot of google.com. If you can have the arrow going to the address bar and actually typing in the correct url and then show a screenshot of what the actual login page looks like that would be helpful. I would also mention for the user to make sure it is in fact the correct and SECURE login page by checking for the http**s** on the beginning of the page url before they actually login.

Web Publishing Page – Keep the two notes up that are there. Right now they disappear when the 'continue' button appears. That may be too fast to read.

Login Sequence – Perhaps use "Microsoft Word" instead of "Adobe Dreamweaver" as a desktop application example. Most people probably cannot relate to what that.

Try: Logging In – Maybe **bold** and/or underline "Learning Objectives" and "Directions". It may make it "easier to read". (Or put a space between headline and info underneath as seen in "Cascade Overview" slide.

Navigation – see "Try: Logging In" above.

Site List Matching Exercise – I would either extend the lines all the way to the answers chosen OR I would take them out completely. They look a little strange only going halfway over.

Try Navigation – see "Try: Logging In" above.

Navigation Hotspot – Have the entire page on there so the user can see all of the navigation area. And on the last "Navigation Hotspot", the "Submit" button was not working.

Webpage Elements - see "Try: Logging In" above.

Try: Identifying Elements – The word "identify" is misspelled under "learning objectives" and "directions". Also, see "Try: Logging In" above.

Editing Page Directions - see "Try: Logging In" above.

Try: Editing a Page - "Demonstrate" is misspelled. Also, see "Try: Logging In" above.

Publishing Page Directions - Maybe highlight that last sentence about using the test server. Also, see "Try: Logging In" above.

Try: Publishing a Page - see "Try: Logging In" above.

In the Table of Contents. After "Try: Editing a Page" is completed, it skips over 4 modules and goes to "Publishing Page Directions". Once it gets to "Try: Publishing a Page", it jumps back up to "Uploading Files Directions". I would change those around so the table of contents stays in sequential order.

Try: Uploading a File – see "Try: Logging In" above.

Survey – The question about the graphics being distracting or not, I think you meant to put "Were" instead of "Where".

Resources – I think "Manuel" is supposed to be "Manual".

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