

Development of an Interactive Multimedia Instructional Module

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Abstract: This paper presents an interactive multimedia instructional module developed to provide a walking tour of historic downtown Wilmington. This module was built following the systematic instructional design process including the steps of analysis, design, development, implementation, and evaluation. The purpose of this paper is to showcase the different steps that went into building the Interactive Multimedia Instructional Module. Adobe Flash was used to create the multimedia program. This project will benefit those who teach computer-based instruction and those who are considering building multimedia products.

Keywords: Multimedia Development; Computer Based Instruction; Computer Assisted Instruction; Design and Development; Walking Tour; Multimedia Learning

Introduction

Instructional Design is a system of developing well-structured instructional materials using objectives, related teaching strategies, systematic feedback, and evaluation (Moore & Kearsley, 1996). It can also be defined as the science of creating detailed specifications for the design, development, evaluation, and maintenance of instructional materials that facilitate learning and performance. A number of instructional design models have been designed to guide users in the instructional design process. In this project we follow the generic ADDIE process to develop the instructional module.

The ADDIE process (analysis, design, development, implementation, and evaluation) is a generic instructional design model with a framework that helps users in the creation of instructional material for any type of learning delivery, such as print and web-based. The model represents a set of dynamic, flexible guidelines for building effective instructional material. The different phases of the ADDIE process provide a roadmap for the entire instructional design process. The

process starts with what one has to learn and ends when we find out if he/she learned what was needed.

During the analysis phase, the designer develops a clear understanding of the gap that exists between the desired outcomes and the existing knowledge and skills of the learners. In the design phase the designer describes the instructional goal, specific learning objectives, instructional materials, practice activities and feedback, instructional strategies, media, and assessments. The design phase immediately follows the analysis phase, and information gained from the analysis phase is translated into a plan for the instructional program. This ensures that we focus all the instruction on critical needs and convey the essential knowledge and skills that people require to perform well. For multimedia projects the outcome of the design phase is a storyboard containing specific instructions for developing the instructional materials. In the case of a computer based instructional module, the storyboard must include detailed information about the content to be communicated, the desired layout of information, and the functionality of the module (where users will click, branch to and from each screen, etc.).

In the development phase, a prototype is developed directly from the design specifications. As a part of this phase, developed materials must be evaluated to ensure they are designed as intended and to verify that instructional content has been properly designed and developed. In the implementation phase, developed instructional materials are administered to a pilot group. The context and parameters of delivery should closely mirror those of the intended users, and testing should be conducted with comparable learners in a comparable environment. Lastly, in the evaluation phase, information from the implementation phase is gathered, compiled, and analyzed. The evaluation phase contains an assessment of mastery of the intended learning, as well as feedback from users and implementers on delivery of instructional material. Surveys are popular tools for evaluation, along with interviews and focus groups.

The outcome of the evaluation phase is a report detailing the results of implementation and evaluation, and containing any recommendations for future use of the product. This instructional module provides a virtual “sneak peek” of the Walking Tour of Historic Downtown Wilmington that will be sure to entice users to want to take the live tour. Twelve of the most popular sites from the tour are featured. The program will teach folklore and facts through the use of pictures (from the present and the past), creative video footage, text, and animation. Special care is taken to maintain the appeal of attending the live tour. Additionally, the design team is using kuler.adobe.com to select a color scheme for the module that is consistent with the Lower Cape Fear Historical Society (LCFHS) website that is still being developed.

Purpose

The purpose of this paper is to describe the systematic process followed in the creation of an interactive multimedia instructional module. The ADDIE process is described along with details that explain the methods used and results found. Finally a discussion of the outcomes of the learning experience indicates how the systematic approach to design and development of the module impacted the experience of the end-users.

Analysis

In this project, instructional problem analysis, goal analysis, audience analysis, and instructional setting analysis were carried out as part of the analysis phase. The figure below illustrates these different types of analyses, which were conducted in the first phase of the ADDIE process. Information gathered in the steps of analysis serves as the basis for decisions surrounding design and development of the multimedia instructional content.

The Lower Cape Fear region is rich in history and folklore. If the walls of the 19th century edifices of Wilmington’s historic district could talk they would tell stories of intrigue, romance, adventure, and struggle. The Lower Cape Fear Historical Society (LCFHS), located in the Latimer House in downtown Wilmington, is dedicated to preserving and sharing this rich heritage with local residents and tourists. One of the primary activities of the LCFHS is providing guided walking tours of some of the most magnificent sites in downtown Wilmington – sites that are not only significant to North Carolina’s history but to our nation’s history as well. Unfortunately, the appeal of the



Figure 1. Analysis conducted in the ADDIE Process for this project

beaches, fine dining choices, and shopping often overshadow the efforts of this organization. As a result, many adults and children miss out on this very unique and educational opportunity. Visitors leave without even knowing that Rudyard Kipling once lived here or realizing that the designers of the Ford Theater actually replicated many of the unique features of Thalian Hall. Local school children drive past the Burgwin-Wright house without realizing that General Cornwallis once resided there during the Revolutionary War or that the only recorded instance of a municipal government being overthrown occurred in Wilmington. By attracting an increased number of visitors and locals to the walking tour of downtown Wilmington the LCFHS will be able to continue its mission of educating others on the history of this region.

Proposed Solution. The addition of a multimedia instructional module to the existing LCFHS website is the most effective and efficient solution to the primary and secondary problems described above. Tourists who are using the Internet to plan a visit to Wilmington will be intrigued by the module and will likely make plans to incorporate the LCFHS Walking Tour in their vacation agendas. Educators as well as youth program coordinators will be able to see the Walking Tour as a healthful, educationally rich, and cost effective field trip. Additionally, teachers may use the learning interactions included in the module to provide students with pre and/or post field trip activities.

Audience Analysis. Audience Analysis can be defined as the process of identifying the background, and learning the characteristics and prerequisite skills of, the target audience (Lee & Owens, 2004). A brief audience analysis was conducted to identify the target audience. This module is designed to attract people of all ages to the Walking Tour offered by the LCFHS. Tourists planning a vacation will appreciate the convenience and content of this module. Locals who may not admit to knowing very little about the history of the city in which they live will appreciate the luxury of being able to learn some interesting and relevant information from the privacy of their own homes. Subsequently, the module will motivate them to go downtown and take the walking tour as well. School-aged children will experience greater learning outcomes, because this module can be used to provide them with prior knowledge of the history of Wilmington before taking the tour and/or provide reinforcement activities after the tour.

Goal Analysis. Goals are broad, generalized statements about what is to be learned. They are thought of as targets to be reached. A goal describes an outcome of instruction and does not refer to the instructional process itself. In instructional design, goal analysis is used to identify what the learner should be able to do

after mastering the instructional goal (Mellon, 1997). The emphasis of instructional design is not to determine how the information will be taught or the exact content, but rather what the student will be able to do that demonstrates competency in the goal (Dick & Carey, 1990). If designers of instruction analyzed and understood the goals that they have for learners and how they will evaluate the learners learning before developing instructional materials, then designers and instructors could save a great deal of time and money (Mellon, 1997). This module will introduce users to the rich history of Downtown Wilmington with past and present images and interesting facts about key historical sites. It is designed to motivate locals and tourists to visit the downtown area and take the reasonably priced walking tour offered by the Lower Cape Fear Historic Society (LCFHS).

Instructional Setting Analysis. If this module is used by a teacher planning a class field trip, a computer with the Adobe Flash Player and Internet access is needed. An LCD projector and external speakers should also be used if sharing with the whole class at once. If students access the module in a lab setting, an LCD projector is not needed; however, each student will benefit from the use of headphones. Today's digital natives already possess the skills needed to navigate through this module. An additional benefit is the fact that each screen contains content that will appeal to all ages, but the reading grade levels purposely range from 3.0 – 5.0 to support learners who lack literacy skills. Adults who access this from home will benefit from the literacy support as well. Of course, home users will also need Internet access and the Flash Player; however, the internal speakers included in most computers will provide sufficient volume, so external speakers and/or headphones are not needed.

Design

The design phase immediately follows the analysis phase, and information gained from the analysis phase is translated into a plan for the instructional program. This ensures that the focus of the instruction is on critical needs and conveys the essential knowledge and skills that people require to perform well. The outcome of the design phase for a multimedia program is a storyboard containing specific instructions for developing instructional material. The storyboard must include detailed information about the content to be communicated, the desired layout of information, and the functionality of the module.

Instructional Objectives. Instructional objectives are specific, measurable, short-term, observable student behaviors which are the foundation upon which you can build lessons and assessments. These objectives help to meet the overall course or lesson goals. An instructional

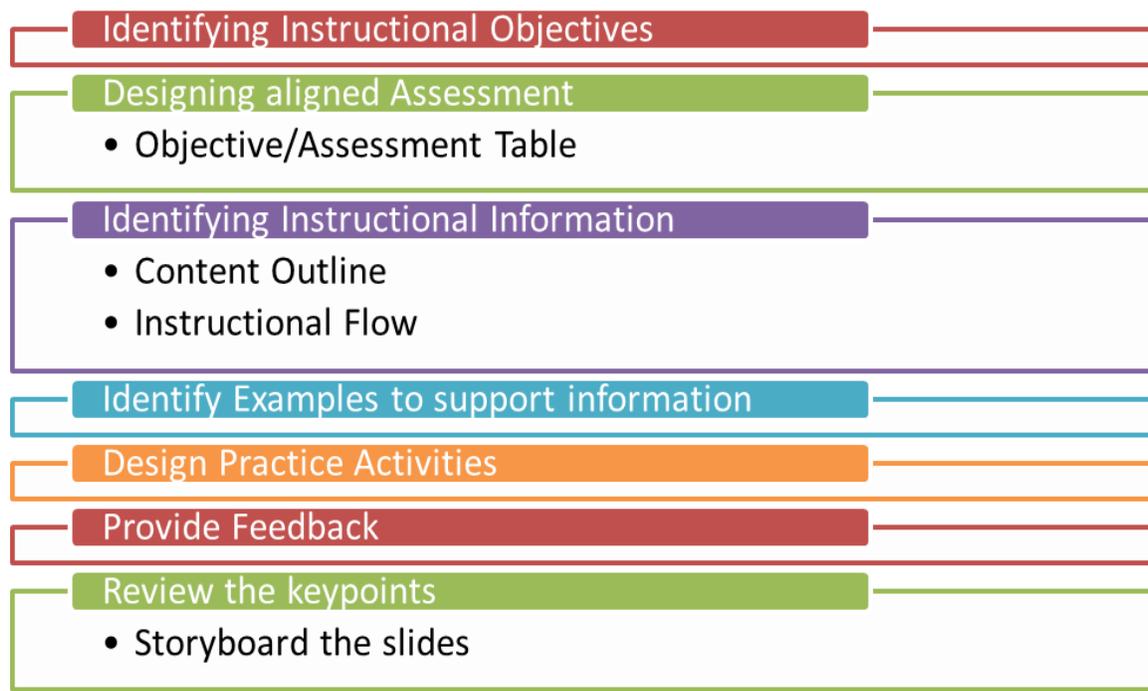


Figure 2. Design Steps in the ADDIE process for this project

objective is a statement that describes an intended outcome of instruction (Mager, 1984). Objectives help to activate a mental set that focuses student attention and directs selective perception of specific lesson content (Gagné, 1985). Reiser and Dick (1996) state, “At a fairly early stage, learners should be informed of what it is that they are going to be able to do when they finish the instructional process. By knowing what will be expected of them, learners may be better able to guide themselves through that process” (p. 48).

Hannafin and Peck (1988) note that the first step of design is to determine the sequence in which the objective will be met. Sequencing the objectives helps to create the outline of the instructional material. There are different ways of sequencing objectives such as topical, known to unknown, general to specific, chronological, and step by step. There has also been research conducted on sequencing objectives from a learning hierarchy, in an attempt to generate a minimal memory load sequence (Nesbit & Hunka, 1987). After the sequence has been determined, instructional content (information) and activities for each objective identified are selected. The objectives, information, and descriptions of activities are then transferred to storyboards.

Design Assessment Aligned with Objectives. Assessments are used to determine whether and to what extent learners have learned specific knowledge or skills based on the instructional goals and objectives of the lesson. The assessment should focus on outcomes of

student learning, and should be aligned with the objectives and be meaningful. Herman, Aschbacher, and Winters (1992) indicate that learners perform better when they know the goal of the instruction, and can also compare their performance to the standard. Assessments should also be designed in such a way that they measure the learning of all the objectives in the instructional material.

In the design phase for this project, the objectives were designed. They were also aligned with the assessments before the instructional content was identified.

Identifying Instructional Information. A significant part of the instructional process involves presenting students with the necessary information for learning (Reiser & Dick, 1996). All models of direct instruction include presenting information to students. Gagné (1985) stresses the importance of emphasizing the information presented to the learners. He mentions that distinctive features of what is to be learned should be emphasized or highlighted when the information is presented (Gagné, 1985). In addition, content presented should be chunked and meaningfully organized (Kruse & Kevin, 1999).

Moreover, instructional material should be provided for all the objectives of the lesson. It is not advisable to provide a lot of extra instructional material outside of the learning objectives; instead, provide material that is aligned with the objectives for the lesson.

Table 1. Objectives and Assessment for the Multimedia Instructional Module

1	<p>Given pictures of sites from the walking tour, the learner will identify the sites by matching the site's name to its image.</p>	<p>Directions: Match the name of the historical site to its picture by dragging and dropping the name onto the correct image.</p> <p>Latimer House Burgwin-Wright House Saint Mary's Church Thalian Hall</p> 
2	<p>Given a site from the tour and a list of trivia statements, learners will identify which statement is associated with the site.</p>	<p>Directions: Identify the correct response for the question below by clicking in the box to the left of the statement.</p> <p>Which of the following statements is true of the Burgwin-Wright House?</p> <p><input type="checkbox"/> The Burgwin-Wright house was once owned by Rudyard Kipling. <input type="checkbox"/> The architect of the Burgwin-Wright House also designed the famous Biltmore Estate in western North Carolina. <input type="checkbox"/> President McKinley stayed at the Burgwin-Wright house while visiting Wilmington in the early 1700's.</p>
3	<p>Given a problem scenario, the learner will identify which historical agency should be contacted for assistance by choosing the name of the organization from a list.</p>	<p>Directions: Read the scenario below. Then identify which organization you should contact for assistance by clicking in the box to the left of the organization.</p> <p>You own a house in the historical district that is in need of repair. Not only does the exterior need to be painted you also noticed that some of the moldings inside need to be replaced.</p> <p><input type="checkbox"/> Lower Cape Fear Historical Society <input type="checkbox"/> The Historical Commission</p>
4	<p>Given a prompt, the learner will recall the facts of which agency provides a walking tour of Historic Downtown Wilmington and where, when and for how much cost they can take the walking tour.</p>	<p>Which Historic Agency provides a walking tour of downtown Wilmington? _____</p> <p>What is the cost of one adult ticket to the walking tour? _____</p>

An outline of the content was developed in the design phase (Table 2). This included identifying different sections of the module and descriptions of the topics that were to be listed in each section.

Once the content outline is developed, an instructional flow is drawn. In this example, a flowchart gives a schematic representation of the different pages in the instructional module.

Table 2. *Content Outline for the Multimedia Instructional Module*

	Section	Description
I.	Introduction	Welcome Introduction & Purpose How this Module Works
II.	Phase One (4 Sites)	Location, Distinguishing Feature(s), and Trivia for each site: Latimer House First Presbyterian Church St. Thomas Church Burgwin-Wright House
III.	Phase Two (4 Sites)	Location, Distinguishing Feature(s), and Trivia for each site: Thalian Hall & City Hall St. Mary Catholic Church Tileston School Captain Cook's House
IV.	Phase Three (4 Sites)	Location, Distinguishing Feature(s), and Trivia for each site: William Rand Kenan House Governor Dudley House Smith Anderson House St. John's Masonic Lodge
V.	Historic Organizations	Describe the purpose & scope of each organization Lower Cape Fear Historical Society Burgwin Wright House Bellamy Mansion Preservation NC Historic Wilmington Foundation Wilmington Historic Commission

Identify Examples to Support the Instructional Material. Examples are verbal or graphical information that provides additional clarification of rules or information presented to learners. Kruse and Kevin (1999) include examples, non-examples, graphical representation, and analogies as guidance strategies that can be used to further clarify new content that is presented.

Design Practice Activities. Practice is defined as the event of instruction provided to learners after they have been given information required to master an objective (Gagné, 1985). Practice involves eliciting performance from learners. It provides an opportunity for learners to confirm their correct understanding, and the repetition increases the likelihood of retention (Kruse & Kevin, 1999). Practice is effective when it is aligned with the assessment in the form of a posttest and with the skills, knowledge, and attitudes reflected in the objectives Reiser & Dick, 1996).

Design Methods for Providing Feedback.

Feedback can be defined as “knowledge of one’s performance provided” (Delgado & Prieto, 2003, p. 73). Practice provides an opportunity for feedback that confirms the student’s answer as being correct or indicates that it is incorrect. Feedback strengthens the probability of correct responses and reduces the probability of subsequent incorrect responses (Philips, Hannafin & Tripp, 1988). Feedback facilitates criterion performance, as it corrects the inaccurate information obtained during instruction, and has little effect on correct responses where the learner has a correct understanding of the text information (Kulhavy & Anderson, 1972).

Review the Key Points in the Instructional Material. The review process typically provides an outline of the key information that was presented to learners. It is intended to reinforce learning, at the end of the instruction, often just before students are tested. Reiser and Dick (1996) cite the value of reviews to bring closure to instruction and to help reinforce the

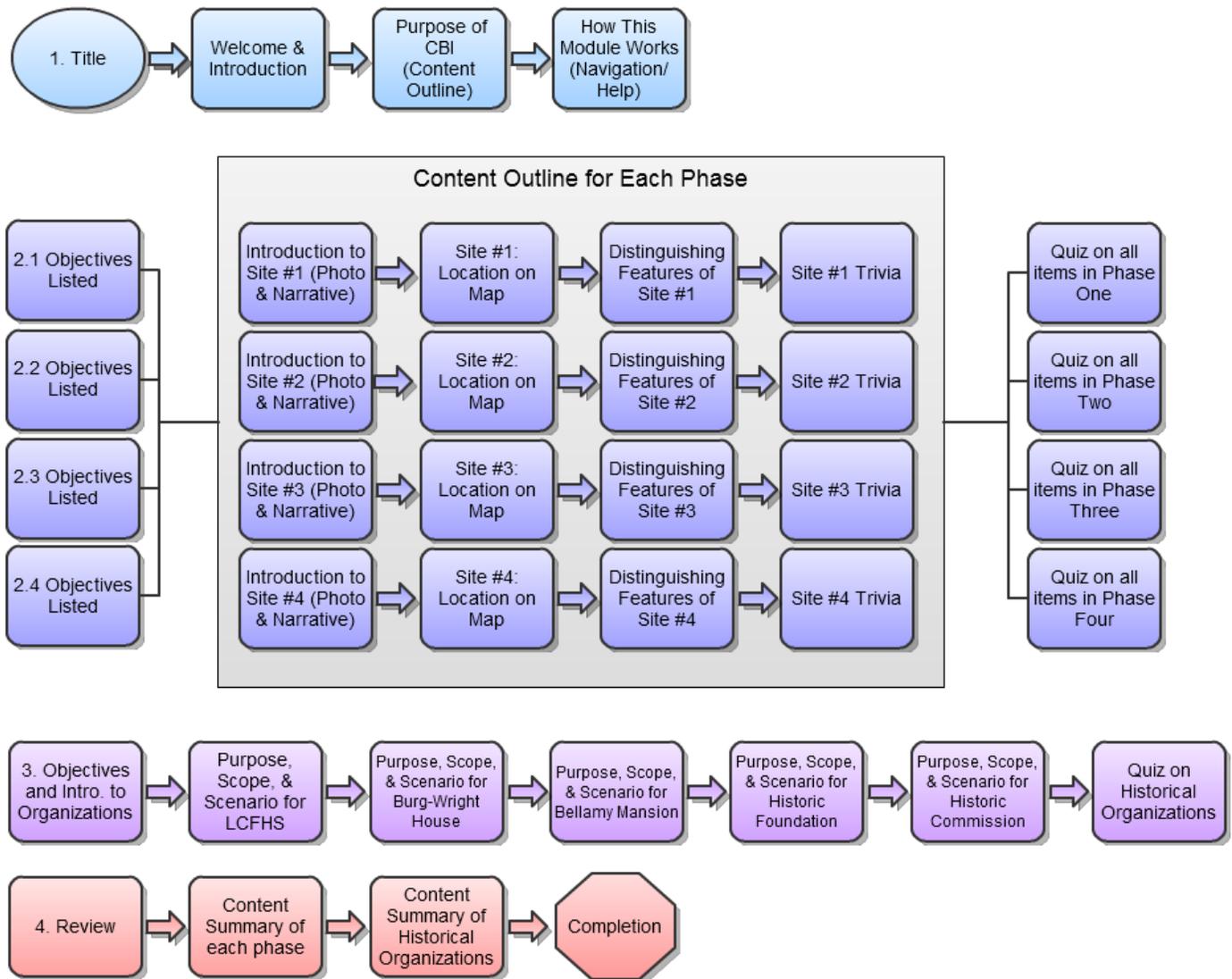


Figure 2. Instructional flow of the module created using Gliffy

skills and knowledge students should have acquired. Mattiske (2001) suggests that a review activity immediately after participants have learned something new reassures them that they are learning. Klein, Spector, Grabowski, and de la Teja (2004) suggest that learners should be given time to reflect and review after new information has been presented to them. Gagné, Wager, Golas, and Keller (2005) indicate that spaced reviews should be given to learners to help them retrieve and use newly acquired information.

Storyboards for the Multimedia Instructional Module. In this phase, storyboards were developed to depict screens from the multimedia instructional module.

Development

Selecting the appropriate media and technology to use in the instructional material is extremely important. Care should be taken not to select

media just because they are available. The majority of instructors use media that are “off the shelf,” that is, ready-made or easily accessible. Media should be selected based on different criteria such as learning outcome, instructional strategy, learner characteristics, and instructional setting. Therefore, aligning the media based on the other instructional elements is important. The purpose in media/technology selection should not be to show the mastery of the technology, but to select media that will best support learning. In this project, Adobe Flash was used as the development tool, and the best method of delivery was computer-based instruction.

Development of the Prototype. In the development phase, a prototype is developed directly from the design specifications. As a part of this phase, developed materials must be evaluated to ensure they are correctly designed as intended, and instructional content must be verified to ensure it has been properly

Select a Phase of the Tour to Begin

Phase Four:
Historical Organizations

Phase Five:
How Can I Take The Tour?

Contact info: Peter Kuhl: Feedback@StoryMap.com 910 300 3736

Screen 0.3	Animations: Hotspot navigation
Image Files:	Sounds:
Branching: <i>prev → ②</i>	
Hotspot to slide #5	Hotspot to slide #11
Hotspot to slide #16	Hotspot to slide #21
	Hotspot to slide #23

Phase One

Image tween
from old
to new

Narrative:
LATIMER HOUSE - 1852
Built by Zebulon Latimer from Connecticut in 1852 and remained in the family for over a century.
Home of the Lower Cape Fear Historical Society

Screen 1.0	Objective 1 and 2	Animations: old to new pic tween
Image Files: 101_1, 101_2	Sounds: none	
Branching: <i>map ← site 1 site 2 site 3 → site 4</i>		

Phase Two

Given pictures of sites from the walking tour, the learner will identify the sites by matching the site's name to its image.

Thalian Hall

St. Mary Catholic Church

Tileston School

Captain Cook's House

Screen 2.4	Objective 2	Animations: drag & drop animation
Image Files:	Sounds:	
Branching:		

Figure 3. Sample storyboards of the multimedia instructional module

designed and developed. In the development phase, the multimedia instructional module is developed using a multimedia program. In this case, Adobe Flash was used to develop the program. Below are screenshots from the module.

Implementation

In the implementation phase, the developed instructional materials were delivered to a pilot group. The module was implemented by uploading to the following weblink <http://ojhoskins.net/mit513/downtownwilmington> and making it available to the learners.

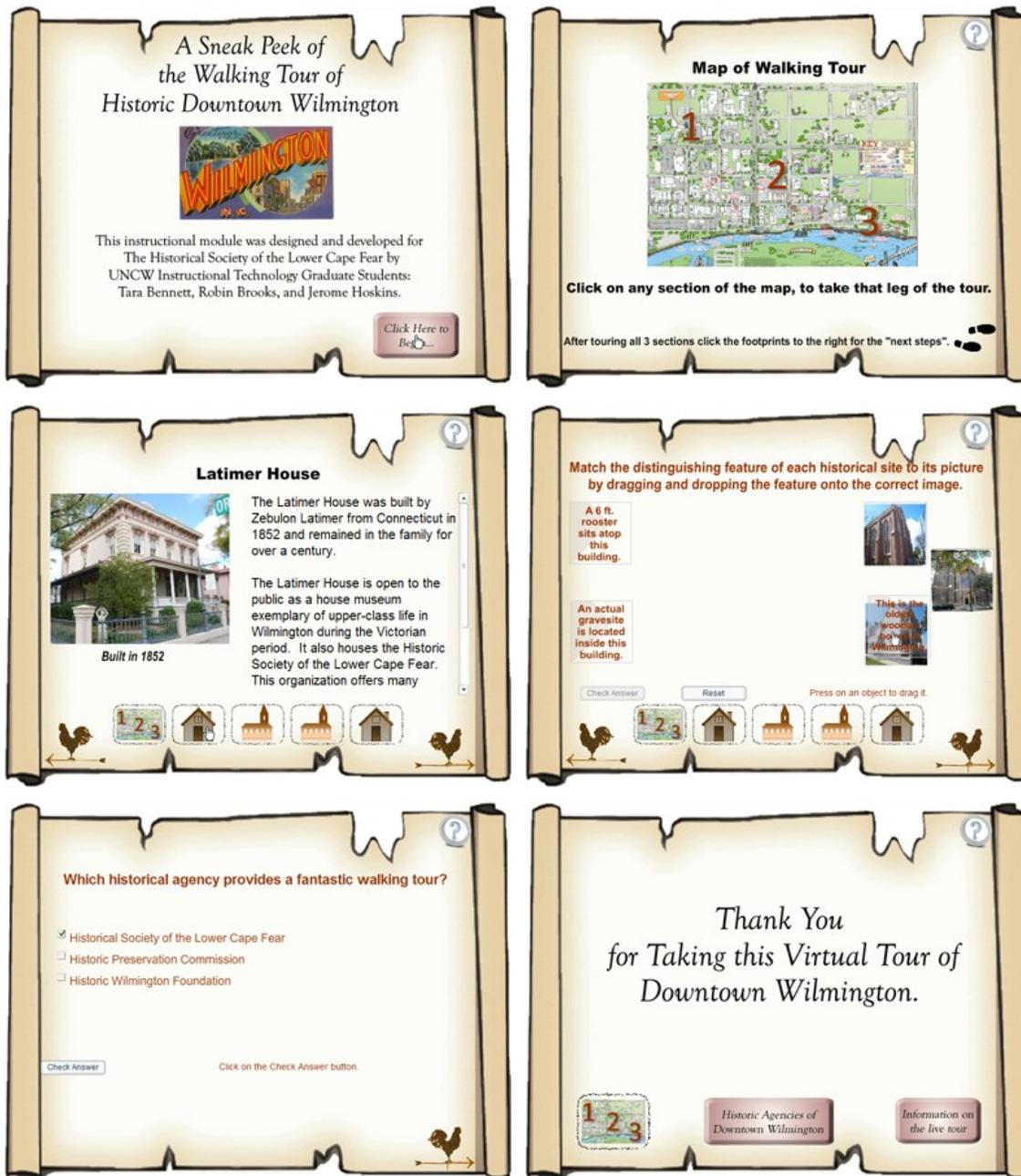


Figure 4. Sample screenshots from the multimedia instructional module.

Evaluation Methods.

This module was field tested before it was uploaded to the LCFHS website. This instructional module was uploaded and made available to learners through the above web link in emails, the North Brunswick High School website, and the Lincoln Elementary School website.

Participants. The tryout included 57 participants in total. The demographic of the participants included: 22 fourth-grade students, 10 ninth-grade students, 13 tenth-grade students, 2 elementary school teachers, 3 high-school teachers, 6 retirees from various professions, and the director of the Historical Society of the Lower Cape Fear. While all the school participants completed the tests and the survey, the director of the Lower Cape Fear Historical Society completed only the survey.

Pre- and Posttests. The pre- and posttests were paper based. They included 15 items (11 match-the-following questions, grouped in three categories, and 4 multiple-choice questions). However responses were collected electronically with Senteo student response pads and Scantron bubble sheets.

Learner Reaction Survey. Survey items to measure the reactions of the learner were developed by examining previously developed usability surveys. As the items were compiled, slight revisions were made to ensure that school-aged children could comprehend what was being asked of them. However, there were still some students who asked for clarification of terms such as: navigation, relevant, and visuals. We used a basic Likert-type scale for each survey item; learners were asked to consider the given statements about the module and then rate them on a scale of 1-5, where 1 indicates that the student strongly disagrees and 5 indicates that the student strongly agrees.

Procedures. All school-aged participants completed the tryouts in a lab setting with their classmates. All other tryouts were conducted one-to-one

on individual computers. Our subject-matter expert completed the survey only because her score on the pre and post assessments would have skewed the data. Initially, a paper-based pre-assessment was administered. For all participants, the responses to each item were either recorded on a bubble sheet or submitted via a student response pad. After completing the pretest, participants were directed to a link to access the module. Generally, participants spent about 25 minutes going through the module before taking the posttest. Elementary school students required more time than others to complete the module. Responses for the posttest were collected in the same manner as were the responses for the pretest. Lastly, all participants were given a link to our survey on Survey Monkey to gather data on their reactions to the module.

Evaluation Findings

Pretest and Posttest Results. Table 3 summarizes the results from the pretest and posttest by objective. There was an improvement in learning for all the four objectives. Learners achieved mastery of content for objective 1 and objective 4 (100% on posttest); however, their performance on objectives 2 and 3 was adequate.

Responses on the Learner Reaction Survey. Table 4 summarizes the findings on the survey that helped measure the reactions of the learners to the multimedia instructional module. The participants rated each item on a scale of 1-5, where 1 indicates that they strongly disagree (SDA), 2 indicates that they disagree (DA), 3 indicates that they are unsure (U), 4 indicates that they agree (A), and 5 indicates that they strongly agree. The survey was divided into five categories: content; structure; navigation and function; format and layout; and overall features. Most of the items had a weighted mean above $M=4.00$, indicating that most of the participants agreed or strongly agreed to the items on the survey.

Table 3. Pretest and Posttest Mean Percentages by Objectives

Objective	Pretest Mean	Posttest Mean
1 (3 assessment items)	54.3%	100%
2 (8 assessment items)	33.5 %	75.6%
3 (3 assessment items)	38.9%	88%
4 (1 assessment item)	44.1 %	100%
Totals	42.7%	90.9%

Table 4. Learner Reaction Survey Results

Survey Items	SA 5	A 4	U 3	DA 2	SDA 1	Weighted Mean
Content						
The purpose and/or goals of the module are clearly stated.	44.	44.4			11.1	4.00
The module is appropriate for many cultures.	77.8	22.2				4.78
The information was presented in a manner that made it easy to understand.	66.7	33.3				4.67
The information presented was appropriate in length.	66.7	33.3				4.67
Practice activities helped with learning.	66.7	22.2	11.1			4.78
Reading level is appropriate.	88.9	11.1				4.89
Easy to read and free of flaws.	66.7	22.2				4.22
Visuals are relevant.	66.7	22.2				4.22
Module authors are available.	44.4	22.2	22.2		11.1	4.22
Structure						
The module provides easy to follow steps with guidance and/or suggestions.	33.3	66.7				4.33
The module is organized so that the display and navigation controls are understandable.	77.8	11.1	11.1			4.89
The module makes it easy for the user to move forward or backward through the site.	77.8	11.1	11.1			4.89
Help was available, useful, and easy to find.	89.8				11.1	4.49
Navigation and Functions						
The module provides access to the main menu from all pages.	44.4	44.4		11.1		4.11
The software provides feedback to user's responses.	89.8			11.1		4.60
The module does not require technical support.	100					5.00
The module does not require additional instruction for learners to be successful.	44.4	55.6				4.44
Format and layout						
The layout guides the user through each page in a logical sequence.	66.7	11.1	22.2			4.89
The displays within the module are clear and easy to view.	66.7	11.1	22.2			4.89
The font style and size is appropriate.	89.8			11.1		4.60
Motions and speed of motions in the module are appropriate.	44.4	44.4	11.1			4.55
This module is likely to maintain interest.	33.3	44.4	11.1			4.00
The module's icons, are consistent and support the content.	77.8	11.1	11.1			4.89
The graphics were integrated with text to support learning.	77.8	11.1	11.1			4.89
The module's color and theme supports its content and purpose.	55.6	44.4				4.56
Overall Features						
The overall quality of the instruction is good.	66.7	33.3				4.67
I learned a lot from this module.	66.7	22.2			11.1	4.22
The information provided was about the right technical level for me.	66.7	22.2			11.1	4.22

Responses to the Optional Open-Ended Response

Survey Items. There were three open-ended items on the survey that asked the learners about what they liked the best and the least about the module, and what suggestions they had for improving the module. The responses are presented in Table 5 below.

Observations

The instructional designers also observed the participants during the field tryout. Elementary school students were surprisingly serious when taking the pre- and posttest, and they were very attentive. There was verbal consensus among the younger children that “the way the pictures from the old days faded into today’s picture was very cool.” The adult participants also indicated that they were impressed with that feature and commented on some of the interesting facts that they had read while going through the module. The high school students were much less vocal about the module, but we did observe some responding to the open-ended survey questions.

Recommended Revisions

Based on the data collected during this tryout, the following revisions will be made to the module before submitting it to the client.

1. Correct the tour times.
2. Correct the 1st multiple-choice item in the module (it is missing a statement).
3. Change the fill in the blank question to a multiple-choice format, or accept more responses as correct.
4. Provide an email link to the module’s authors.
5. Add a button on each slide that will provide learners the option of hearing narration.

Conclusion

This paper presented a description of the systematic design process followed for the multimedia design and development of an interactive instructional module developed to provide a walking tour of historic downtown Wilmington. The authors hope that the

Table 5. *Open-Ended Item Responses*

<p>What did you like best about the Walking Tour module?</p> <ul style="list-style-type: none">• It was interesting.• The information given about the times when they are open and the price of a ticket.• The houses• How it was broken down into a few sites at a time.• The arrow keys allow you to move back & forth.• The questions and the makers(:
<p>What did you like least about the Walking Tour module?</p> <ul style="list-style-type: none">• The reading• It was hard to tell the difference between some of the houses.• How near the end there were up to four sites and it was hard to remember them all with so much information.• The sites weren’t interesting• I got a question wrong because I didn’t use a \$• It was about the history of downtown Wilmington
<p>Do you have any further suggestions for improvements to this module?</p> <ul style="list-style-type: none">• More pictures• Let the computer read it for us• It’s perfect• The tour is only given on W and Sat.• The directions about the BW House don’t have a question?

description of the design process, including the evaluation methods and results, will prove helpful to those who are interested in developing similar interactive instructional modules. The design and development elements mentioned in the paper, when used correctly, should result in the development of an effective module that is instructionally sound. This paper also has implications for those who will be teaching a computer based instruction course, or considering a computer-based instruction module.

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