

Field Test Report

Overview

Program Title: Introduction to Greenfield Lake Park

Target Audience: This module is designed to provide general information for visitors to Greenfield Lake Park and will potentially be used by both adults and children. The age, educational levels and computer abilities of adult visitors will vary greatly and therefore, the module will need to be user friendly on an introductory level. This will also allow the module to be easily accessible to a wide range of schoolchildren. The program will target both new and returning visitors to the park. The target audience will need to have basic computer skills, including knowledge of how to access a website.

Major Goal: Students are introduced to features of Greenfield Lake Park, including history, orientation, birds, tree, safety and the environment. And can demonstrate what they have learned when a kid asks them a question the next time they are at the park.

Program Description

Instructional Objectives:

Table 1

#	Objectives
1	Given a list of statements, the learner will identify true statements on the history of Greenfield Lake.
2	Given a list of activities, the learner will identify activities that can be included in a day's visit to the park.
3	Given two animations, the learner will identify the animations that show the safest passing on a trail.
4	Given pictures of trees, the learner will identify the species common names.
5	Given pictures of birds, the learner will identify the species common names.
6	Given a list of possible factors, the learner will identify factors that contribute to the growth of algae in Greenfield Lake.

Materials:

Module: The Greenfield Lake Park module, which had been uploaded to the UNCW server, was available to all participants through an internet link.

Tests: Pre and posttests were paper-based (see Appendix A).

The instructional module included instructional content, review, practice activities and post tests.

Tryout

Participants: The module was tested on 6 individuals. Four were employees of New Hanover Regional Medical Center, one was a stay at home mom and one individual was a teacher and graduate student. All were motivated participants and interested in learning about Greenfield Lake Park.

Process: A paper-based pretest was administered at the beginning. After completion, each participant was provided with the site link for the instructional module. The evaluations were conducted one-to-one, and all participants were observed during the review of the module. After completion of the module, each participated completed a paper-based posttest and a survey (Appendix B) to collect their attitudes toward the module.

Data Sources:

Pretest and Posttest: Both the pretest and posttest had three questions for each of the six objectives, for a total of 18 questions. The objectives were tested using multiple choice and true/false items. The tests were paper-based.

The comparison of the data between the pre and posttest is used to assess the overall learning of the students. Test data also identified learner's knowledge of specific objectives.

Student attitude survey: The attitude survey consisted of two sections. The first part contained five categories (Site Validity, Content, Structure, Navigation and Function, Format and Layout and Overall Features). The participants needed to place a mark in the correct box to the right of the statement that best represented their level of agreement with the statement. A five point Likert scale (Strongly agree = 5; Agree = 4; Unsure = 3; Disagree = 2; Strongly agree = 1) was used to measure their responses.

The second section contained three open-ended questions used to evaluate what they liked best and least about the module and any suggestions they had for improvement.

Observations: The evaluations were conducted one-to-one and the participants were observed individually.

Data-collection procedures: The entire module took an average of 30 minutes. Both the pre and posttest were administered on paper. The attitude survey was given after the posttest. The tests and surveys were collected and scored.

Results

Test performance: The mean score and the mean percentage of the field-test participants on the pretest and posttest are shown by instructional objective in Table 2 and by participant in Table 3.

Table 2

Pretest and Posttest Mean Percentages Scores by Objectives				
Objectives	Pretest Mean	% Pretest Mean	Posttest Mean	% Posttest Mean

History	3.3	33%	8.3	83%
Orientation	6.1	61%	8.3	83%
Safety	8.3	83%	10.0	100%
Trees	8.3	83%	8.9	89%
Birds	8.3	83%	10.0	100%
Environment	7.2	72%	7.8	78%
Totals	41.5	69%	53.3	89%

Note: Each objective is worth 10 points. Maximum score = 60.

Table 3

Pretest and Posttest Mean Percentages Scores by Participant				
# Participant	Pretest Mean	% Pretest Mean	Posttest Mean	% Posttest Mean
Participant 1	7.8	78%	8.3	83%
Participant 2	6.1	61%	10.0	100%
Participant 3	7.2	72%	8.9	89%
Participant 4	6.7	67%	8.9	89%
Participant 5	4.4	44%	8.9	89%
Participant 6	9.4	94%	8.3	83%
Totals	41.6	69%	53.3	89%

Note: Each objective is worth 10 points. Maximum score = 60.

Student attitude:

Likert Scale

Analysis of Attitude Survey

Table 4

#	Question	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Mean
		5	4	3	2	1	
Site Validity							
1	Module authors are available.	6					5.0
2	The purpose and/or goals of the module are clearly stated.	5	1				4.83
3	The information presented is educationally significant.	5	1				4.83
4	The information was presented in a manner that made it easy to understand.	5	1				4.83
5	The information presented was appropriate in length.	5			1		4.5
6	The concepts presented are valid.	5	1				4.83
7	Practice activities are sufficient to assist with learning.	6					5.0
							4.83
Structure							
8	The module provides easy to follow steps with guidance and/or suggestions.	5	1				4.83
9	The module is organized so that the display and navigation controls are understandable.	5	1				4.83
10	The module makes it easy for the user to move forward or backward through the site.	5	1				4.83
							4.83
Navigation & Function							
11	The module provides access to the main menu from all pages.	5	1				4.83
12	The design minimizes the possibility of the user getting “trapped” in exercises.	4	2				4.67
13	The software provides feedback to user’s responses.	4	1		1		4.33
14	The application does not require extensive documentation, technical support, and/or instruction for successful usage of the software.	6					5.0
							4.71
Format & Layout							
15	The layout guides the user through each page in a logical sequence.	6					5.0
16	The displays within the module are clear, easy to view and provide the content without crowding the screen.	5	1				4.83

Format & Layout (continued)						
17	The module's theme (color, icons, etc) supports its functions and content, providing visual consistency.	6				5.0
18	The graphics were integrated with text to support learning.	6				5.0
						4.96
Overall Features						
19	The overall quality of the instruction is good.	6				5.0
20	I learned a lot from this module.	6				5.0
21	The information provided was about the right technical level for me.	6				5.0
						5.0
	Totals					4.87

Open-ended questions

The following were the responses received to the three open ended questions on the attitude survey. The open ended questions were about what the participants liked the least and the best in the module and suggestions for improvement.

Features they liked the best about the module:

- Learning about the history of the park.
- The pictures on each section and the stationery panoramic picture at the top. The whole thing was very enjoyable and easy to follow.
- The level of learner interactivity! The animation was great! Very interesting topic!
- Interactive, entertaining and enjoyable.
- The flow was very easy and made it easy to understand.
- The animations.

Features they liked the least about the module:

- One of the tests was missing a reset action, so I could not try my answer again.(see revision 1)
- It took a while to load, but that could be my computer.(see revision 2)
- The safety section, p. 9, was a little difficult to see the pictures clearly before clicking on them.(see revision 3)
- When I was finished with each section, I had to go down to the menu bar to click to the next section. It would be nice to have the option to move right into the next section.(see revision 4)

Suggestions for improvement included:

- The little test on safety, p.10, it took me a few minutes to get that I was to drag the symbol into the box. I was trying to drag it past the moving object! (see revision 5)
- No, I really enjoyed it!

- I'm not crazy about the gray font color on some of the screens. Makes it difficult to read.(see revision 6)

Observations: The students appeared very comfortable using the module as it is designed to be self-study. No questions were asked by the participants during the evaluation.

Revisions

The following 6 revisions can be completed before final implementation of the module. The numbers reference the comments made in the 'Open Ended Questions' section.

1. Find the missing reset button and add it.
2. Add a preloader to quell frustration with loading times. Also, reduce the file size of pictures.
3. Switch to a multiple choice question, instead of 'hotspot'.
4. Add a next section button to last screen of each section.
5. Add a question mark to the box and change the text to read "drag the x or the check to the correct answer box".
6. Change gray text, the learning interaction text, to black.

Appendix A: Test

Greenfield Lake Park

Name: _____

Date: _____

1. Place an x in the blank(s) to the left of each true statement regarding Greenfield Lake Park.

- _____ The City of Wilmington purchased the property in 1925.
- _____ A world record dance contest was held at Greenfield Lake Park in 1923.
- _____ A five mile road was build around the lake during World War II.
- _____ Greenfield Lake has always been the property of the City of Wilmington.
- _____ During the early 1900's, the lake was so clear you could see clearly to the bottom.

2. Match each statement in the right hand column with the correct individual or era on the left by placing the correct letter in the blank.

_____ Dr. Samuel Green	A. Responsible for adding attractions such as boardwalks, bathhouses and diving boards to the park in the early 1900's.
_____ Howard & Wells Amusement Company	B. Responsible for planting many flowering shrubs in Greenfield Lake Park.
_____ Commissioner Wade	C. Greenfield Lake's original owner and a surgeon in the late 1700's.
_____ Depression Era	D. Responsible for the completion of a five mile road around the park.

3. Greenfield Lake is a naturally occurring lake.

_____ True _____ False

4. Place an x in the blank(s) check next to the activities you and your family can participate in while at Greenfield Lake Park.

- _____ Canoeing
- _____ Fishing
- _____ Swimming
- _____ Renting paddle boat

- Use the boat ramp to place your small boat into Greenfield Lake.
- Picnicing
- Biking
- Tennis

5. Place an x in the blank(s) next to each true statement regarding Greenfield Lake Park.

- Picnic shelters can be reserved through New Hanover County Parks Reservation Center.
- Motorized vehicles or skateboard are not allowed on the trail.
- Keep the park clean by using designated receptacles to dispose of pet waste.
- Individuals do not need a fishing permit to fish in Greenfield Lake Park because it is a city park.
- Paddleboats, canoes and kayaks are available for rent in the boathouse.

6. A walking or bike trail surrounds the entire lake, 4.5 miles in length.

- True False

7. Place the correct letter in the blank next to the tree species to match the picture with the common name.

- Southern Magnolia
- Longleaf Pine
- Bald Cypress
- Loblolly Pine



A



B



C



D

8. Check an x in the blank(s) next to the tree that has fragrant white flowers in Spring?

- Longleaf Pine
- Loblolly Pine
- Southern Magnolia
- Bald Cypress

9. "Cypress knees" are unusual root growths of the bald-cypress trees which grow up from the ground and often emerge above the water.

- True False

10. Place the correct letter in the blank next to the bird species to match the picture with the common name.

_____ Laughing Gull

_____ Canada Goose

_____ Mallard

_____ Herring Gull



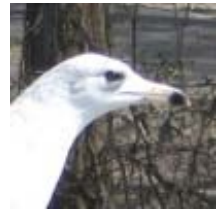
A



B



C



D

11. Place an x in the blank(s) next to the bird that is known for its “laughing” call.

_____ Herring Gull

_____ Laughing Gull

_____ Canada Goose

_____ Mallard

12. Many coastal birds visit Greenfield Lake Park each year.

_____ True

_____ False

13. Place an x in the blank(s) next to each true statement regarding safe boating activity at Greenfield Lake Park.

_____ Always walk on the dock, never run.

_____ Life vests are optional while boating at Greenfield Lake since it is not very deep.

_____ Never stand in a boat.

_____ There are no restrictions on boat motor size within the park.

14. Identify elements of proper trail etiquette by placing an x in the blank(s) next to each true statement.

_____ Keep your speed slow and watch for children and pets.

_____ Walkers and runners should keep to the right hand side of the trail.

_____ Be aware of uneven pavement and slippery lake banks to avoid falling.

_____ Bikers and runners should pass on the left and announce their passing.

15. You are welcome to bring your own boat to Greenfield Lake Park, but please, no motors over 3.5 horsepower.

_____ True

_____ False

16. Place an x in the blank(s) next to the items below that contribute to the growth of algae in Greenfield Lake.

- Animal waste
- Lawn fertilizer
- Diesel fuel
- Fish

17. Many different native plant and animal species reside within Greenfield Lake Park and depend upon each other for their survival.

- True
- False

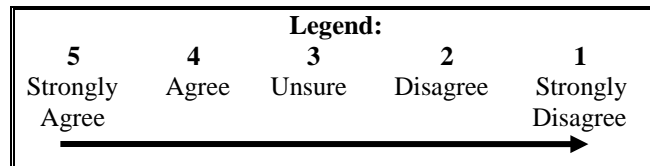
18. Please dispose of litter in wastebaskets. Fish become tangled in plastic bags and turtles can die from eating plastic.

- True
- False

Appendix B: Survey

Greenfield Lake Park

Attitude Survey



Please rate your level of agreement with the following statements on a scale of 5-1 by placing a “√” or an “x” in the appropriate box to the right of the statement. Use the comment section to make note of specific questions or concerns you find while reviewing each section.

Site Validity							
#	Question	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
		5	4	3	2	1	
1	Module authors are available.						
Content							
2	The purpose and/or goals of the module are clearly stated.						
3	The information presented is educationally significant.						
4	The information was presented in a manner that made it easy to understand.						
5	The information presented was appropriate in length.						
6	The concepts presented are valid.						
7	Practice activities are sufficient to assist with learning.						

Structure							
#	Question	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
		5	4	3	2	1	
8	The module provides easy to follow steps with guidance and/or suggestions.						
9	The module is organized so that the display and navigation controls are understandable.						
10	The module makes it easy for the user to move forward or backward through the site.						
Navigation & Function							
11	The module provides access to the main menu from all pages.						
12	The design minimizes the possibility of the user getting “trapped” in exercises.						
13	The software provides feedback to user’s responses.						
14	The application does not require extensive documentation, technical support, and/or instruction for successful usage of the software.						
Format & Layout							
15	The layout guides the user through each page in a logical sequence.						
16	The displays within the module are clear, easy to view and provide the content without crowding the screen.						

Format & Layout (continued)							
#	Question	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree	Comments
		5	4	3	2	1	
17	The module's theme (color, icons, etc) supports its functions and content, providing visual consistency.						
18	The graphics were integrated with text to support learning.						
Overall Features							
19	The overall quality of the instruction is good.						
20	I learned a lot from this module.						
21	The information provided was about the right technical level for me.						
We would appreciate your comments to the following questions. Thank you for your time in completing this evaluation.							
22	What did you like best about the Greenfield Lake Park module?						
23	What did you like least about the Greenfield Lake Park module?						
24	Do you have any further suggestions for improvements to this module?						

