

**Q410: Instructional Design & Implementation Strategies  
Design Portfolio Project  
ED101: “Creating a Web Page” Unit**

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## **I. Executive Summary**

The following Instructional Design Portfolio was developed by the design team of Brice Jewell, Sarah LaVaute, Aaron Olson, and Astrid Wichmann, Masters of Education students at the School of Information Science and Learning Technology at the University of Missouri Columbia. The Analysis Summary provides more detailed rationales for both the creation of the ED101 course and the need for revising the Netscape Composer component, as well as learner, environmental and task analyses of the course. In the Design Brief, the design team's choices of instructional strategies, media, and assessment items that best suit the goals and logistics of the course are presented. Finally, a formative evaluation was conducted to measure the effectiveness of the revisions. The results of this evaluation can be found in the Formative Evaluation Report followed by the Instructional Product itself and a list of References used in the development of this Design Portfolio.

## **II. Analysis Summary**

### **A. Problem Description**

Freshman students within the University of Missouri – Columbia's College of Education (COE) enter the university with greatly varying technology skills. As these freshman COE students enter classes they find that they are expected to know how to use several basic computer skills, and apply them with basic computer applications. Many classes require students to use Microsoft Office Suite Software including Excel, Word, PowerPoint; know how to use their MU Outlook Email account; be able to conduct a useful Internet search; make on-line presentations; identify peripheral equipment, and more. With the varying knowledge levels in relation to these skills, students find themselves struggling to learn software quickly, while not completing the related class work to the best of their ability. Additionally, instructors may have to take time out of their class schedule to tutor students who are struggling because of their lack of basic technology and computer use skills. Interviews with faculty members have resulted in the identification of students' overall lack of basic computer use skills including the use of basic Microsoft Office Suite applications, email, and more.

The MU - College of Education Teacher Development Committee has requested that a class be created to service this need, in addition to keeping with a vision that is focused on a movement towards technology integration in education. An on-line class that focuses on the basic skills needed in MU College of Education courses has been created. "ED101: Teacher Technology Skills" is based upon the above-mentioned skills and more.

The macro environment involves the revision of this course's instructional design, in addition to altering the facilitator's ease of use. Because of the wide-ranging subject matter, this project will focus on one unit of study. The micro level focus of this instructional design will involve the revision of the Netscape Composer lesson, which will be evaluated for the Instructional Design Portfolio.

The design team has chosen to work together with the ED101 instructional designer to revise the current Netscape Composer component of the ED101 curriculum. Each group member of the instructional design team has experience in the use of web editors, and basic HTML

coding. Three out of four of the group members have introductory level knowledge of instructional design processes, and one member has experience writing curriculum.

## **B. Description of Instructional Needs**

### ***Description of Needs Assessment:***

Before being able to determine the need for the “Creating a Web Page” unit, a needs assessment was first conducted to determine if the ED101 course was needed. This needs assessment was conducted by the College of Education in the year 2000. The assessment tools consisted of UMC-COE faculty and student surveys. The purpose of the assessment tools was to determine the level of computing skills that freshman COE students possessed and the level of skill that professors would require of the students. Some of the information gathered indicated that there was a wide range of student technology skill levels. Additionally, data collected from this needs assessment identified a number of skills that freshman COE students need to complete course work. This also provided for the COE to cross-reference this collected information to the International Society for Technology Education’s Performance Indicators for Teachers. Thus, ED101 was created to serve both the purposes of adherence to the ISTE standards, and the need for a technology skills class that focused on realistic needs of COE students.

The culminating unit in the ED101 course is “Creating a Web Page with Netscape Composer”. This unit consists of two lessons: Introduction to HTML and Creating a Web Page. A tutorial was created to teach the Creating a Web Page unit. ED101 was intended to teach computing skills to freshman COE students, but its goals are to teach those skills within the context of the students being future educators. In order to determine if the instruction meets the needs that ED101 is designed to address, a needs assessment was conducted on the Creating a Web Page unit. To conduct the needs assessment, a formative evaluation was performed. This evaluation consisted of interviewing one subject matter expert and conducting two one-to-one user interviews. The subject matter expert previewed the instruction and the users performed the instruction.

Based on the data collected from the needs assessment, it was determined that the Creating a Web Page instruction primarily serves as a step-by-step Netscape Composer tutorial and does not place the instruction within the context of the students being future educators. This is the primary need that is to be addressed. Additional needs were also identified based on the data gathered from the subject matter and user evaluations. It was determined that the instruction does not provide enough of an introduction as to what web sites and the Internet are. The instruction needs to provide more examples in order to better clarify important topics such as good web design principles, appropriate use of color, and appropriate site content. A “resources” page needs to be created, which will provide additional information, help illustrate important topics, and provide an all-inclusive list of resources used in the lessons within this unit. This “resources” page would provide additional scaffolding as students begin to create their teacher web page. More advanced information on creating and designing web sites also needs to be provided, including information about design, content of teacher web pages, and more. A complete listing of the recommended revisions resulting from the needs assessment analysis can be found in Appendix B.6.

***Problem Statement:***

The current instruction provided in the Creating a Web Page unit does not address the importance and need of being able to create a web page in a context that future educators will value and appreciate. Therefore, the Creating a Web Page unit needs to be redesigned in order to meet the needs of freshman COE students as both current students and future educators.

***Description of Analysis Tools and Procedures:***

The needs mentioned above that will be addressed in the redesign of the Creating a Web Page unit were determined by conducting a subject matter expert (SME) evaluation and two one-to-one user evaluations. During the SME evaluation, the SME was first given an overview of the evaluation procedure and the goals and objectives of the instruction. The SME then began reading through the instructional materials. The SME was asked to use a “think aloud” method so that the evaluators could record what the SME thought as she proceeded through the instruction. The evaluators recorded observations and comments made by the SME on hard copies of the instruction. This method allowed the evaluators to more accurately pinpoint where problems occurred in the instruction. These observations were later transferred to an observation log (Appendix A.1). After reading through the instruction, the SME was asked to complete an attitude questionnaire about the instruction, which covered areas such as instructional design, cosmetic design, and functionality (Appendix A.2). After completing the questionnaire, the SME was asked some debriefing questions in order to obtain further suggestions for improving the unit (Appendix A.3). The data collected from the SME evaluation can be found in Appendix B items B.1 and B.2.

Two one-to-one user evaluations were conducted with a female junior COE student and a male senior COE student. Both users were first given an overview of the Creating a Web Page unit, which included the goals and objectives of the unit as well as the procedure that would be followed during the evaluation. Each user was paired with one evaluator to proceed through the instructional materials. The users worked through the instruction while using the think aloud method. The evaluators recorded observations and comments made by the users on hard copies of the instruction, which were later transferred to observation logs (Appendix A.1). After completing the instruction, the users completed an attitude questionnaire. The questionnaire covered materials such as unit content, unit design, self-paced delivery, and unit results (Appendix A.4). After completing the questionnaire, the users were asked some debriefing questions in order to obtain further suggestions for improving the unit (Appendix A.5). The data collected from the user evaluations can be found in Appendix B items B.3, B.4, and B.5.

***C. Goal Statement:***

University of Missouri – Columbia’s first semester, freshman, College of Education students will be able to effectively and efficiently create a basic web page using the Netscape Composer Web Editor Program, for use as a classroom teacher.

***D. Environmental Scan:******System of Interest:***

The ED101 class will be created for the University of Missouri – Columbia’s College of Education. This class will be made a component of a freshman COE orientation course, ED100.

### ***Description of Context:***

This online course will be offered via the Blackboard 5 online education platform, and be a component of the ED100 UMC-COE Freshman Orientation class. Students will apply the skills gained from this course in their course work at the UMC and in their future professions as classroom teachers.

Approximately 350 freshman UMC-COE students will take this course every fall semester. These students will be able to access this course from any Internet connected computer, with the use of their assigned pin number and password. All students will have access to the Reflector computer lab, located in Townsend Hall, on the UMC campus. These Mac and PC computers run Windows 1998 are loaded with Netscape 4.7, the software needed to complete the “Creating a Web Page” unit.

Presently, the ED101 administrator, Dr. Jane Howland, will oversee the course. The assigned ED101 Coordinator will complete specific maintenance of course content and information. This coordinator will oversee the graduate teaching assistants assigned to teach sections of the course.

### **E. Learner Analysis:**

#### ***Target audience overview:***

The audience of which these instructional materials have been created are 350 UMC-COE pre-service freshman teachers. These teachers are: an average age of 19, approximately 85 % female, a majority of which live on campus and a majority of which have never completed an online course.

#### ***Cognitive Characteristics:***

General Aptitudes: The target audience of pre-service freshmen teachers have average to above average intelligence. The majority of these students are able to reflect meta cognitively their own information processing. Additionally they are able to seek learning strategies to help themselves and they are able to use advanced study strategies.

Specific Aptitudes: It cannot be assumed that the pre-service teachers have completed an online course before. Additionally the students have greatly varying technology skills.

Developmental Level: The target audience is at the formal operations level of reasoning.

Language Developmental Level: A majority of ED101 students speak English fluently. Students possess varying knowledge of technology terminology (or language).

Level of Visual Literacy: It is assumed that all students can process information from graphics when their efforts are supported by questioning and kept focused by specific prompting.

Cognitive Processing Styles: Because of the vast amount of students enrolled in this course, varying cognitive processing styles will be used throughout the learning process

Particularly Prior Knowledge: Freshman students within the University of Missouri –Columbia’s (UMC) College of Education (COE) enter the university with greatly varying technology skills. Most students don’t have prior knowledge of creating web pages or HTML in particular. However, it can be assumed that a majority of freshman COE students enter ED101 with introductory computer skills.

Cognitive and Learning Strategies: Because of the large and varying audience of target learners, differing effective learning strategies will be implemented.

### ***Physiological Characteristics:***

Sensory Perception: The students of ED101 do not suffer from extreme sensory impairments such as hearing loss and blindness to any degree greater than the general population.

General Health: Since this instruction is web based, the students visually depend on screen monitors. Even if the targeted users of this course are color blind, the instructions are legible.

Age: As mentioned in the beginning, our target audience consists of students with an average age of 19

### ***Affective Characteristics:***

Interests: Students enrolled in this course have varying interest levels in furthering their technology skills. The students are interested in learning how to create a web page, because this will be one way of presenting content and instruction in their future job

Motivation: It can be assumed that the students have at least intrinsic as well as extrinsic motivation to take this class. Students will be extrinsically motivated because the course is required. Some students experience also intrinsic motivation, because they have chosen by themselves to take this class.

Attitude Toward Subject Matter: In general, this group of pre-service teachers will have a good attitude towards learning to create web pages, because they know that it is important for them to use web pages in instruction.

Attitude Toward Learning: It can be assumed that the students have a good attitude towards learning since they are young learners and have recently chosen to enroll in the College of Education.

Academic Self Concept: Varying amounts of target learners will possess a high level of academic self-concept and believe that they can reach their goals.

Anxiety Level: Varying levels of anxiety related to learning to create a web page will be experienced, as there are varying technological skills within the target audience.

Attribution of success: The level of success will mostly depend on student effort level and instructional design of the unit.

***Social Characteristics:***

Moral development: It can be assumed that the target audience's stage in moral development varies. Because of their age being an average of nineteen, and varying levels of development within a large group of students, the target audience may be in the conventional or post conventional stages of moral development.

Socio-Economic Background: The Socio-economic background of the target audience varies, as there are such a large number of students.

**F. Task Analysis**

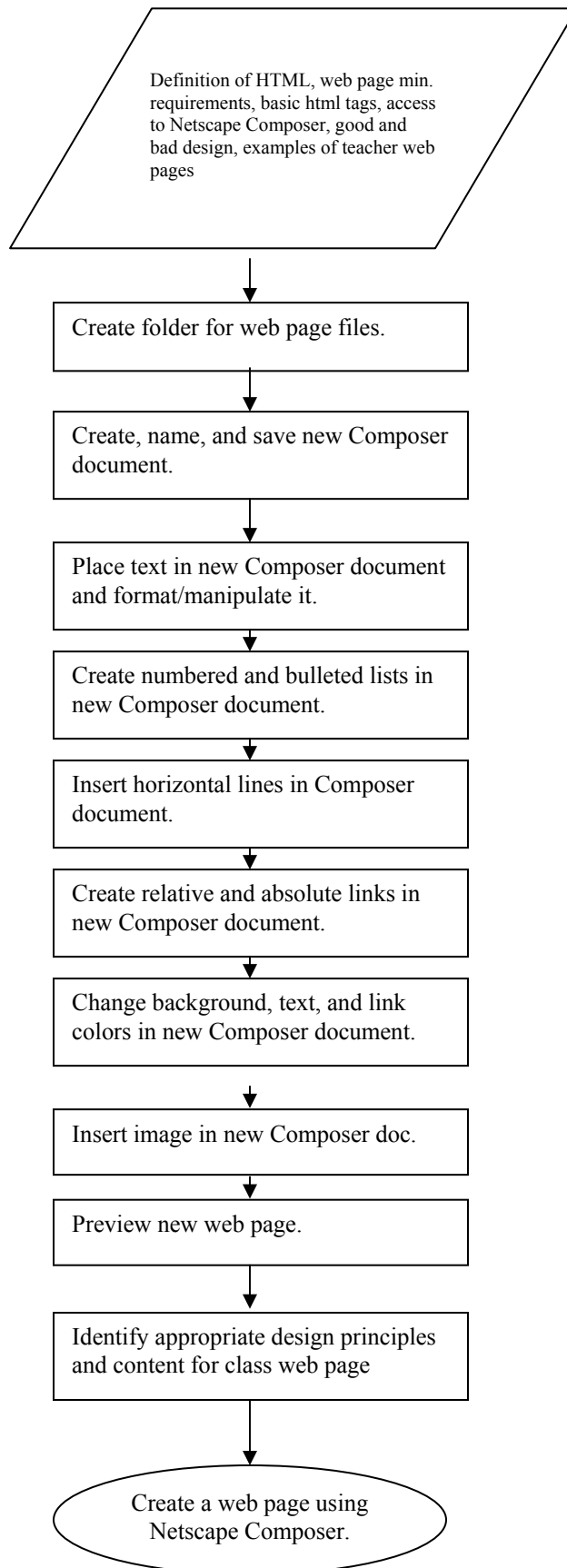
***Instructional goal:*** University of Missouri – Columbia's first semester, Freshman, College of Education students will be able to effectively and efficiently create a basic web page using the Netscape Composer Web Editor Program, for use as a classroom teacher.

***Type of learning:*** Procedural

***Task Analysis Type:*** Learning Hierarchy Analysis



**Lesson IPA:**



Lesson Objective 1: The LWBAT explain what an HTML document is, describe the minimum requirements of a web page, and explain some of the basic HTML tags.

Lesson Objective 2: The LWBAT create a folder to store the files for a Netscape Composer web page.

Lesson Objective 3: The LWBAT create, name, and save a new document in Netscape Composer.

Lesson Objective 4: The LWBAT place, manipulate, and format text in a Netscape Composer web page.

Lesson Objective 5: The LWBAT create numbered and bulleted lists in a Netscape Composer web page.

Lesson Objective 6: The LWBAT insert horizontal lines in a Netscape Composer web page.

Lesson Objective 7: The LWBAT define relative and absolute links, and create a link to another web page from a Netscape Composer web page.

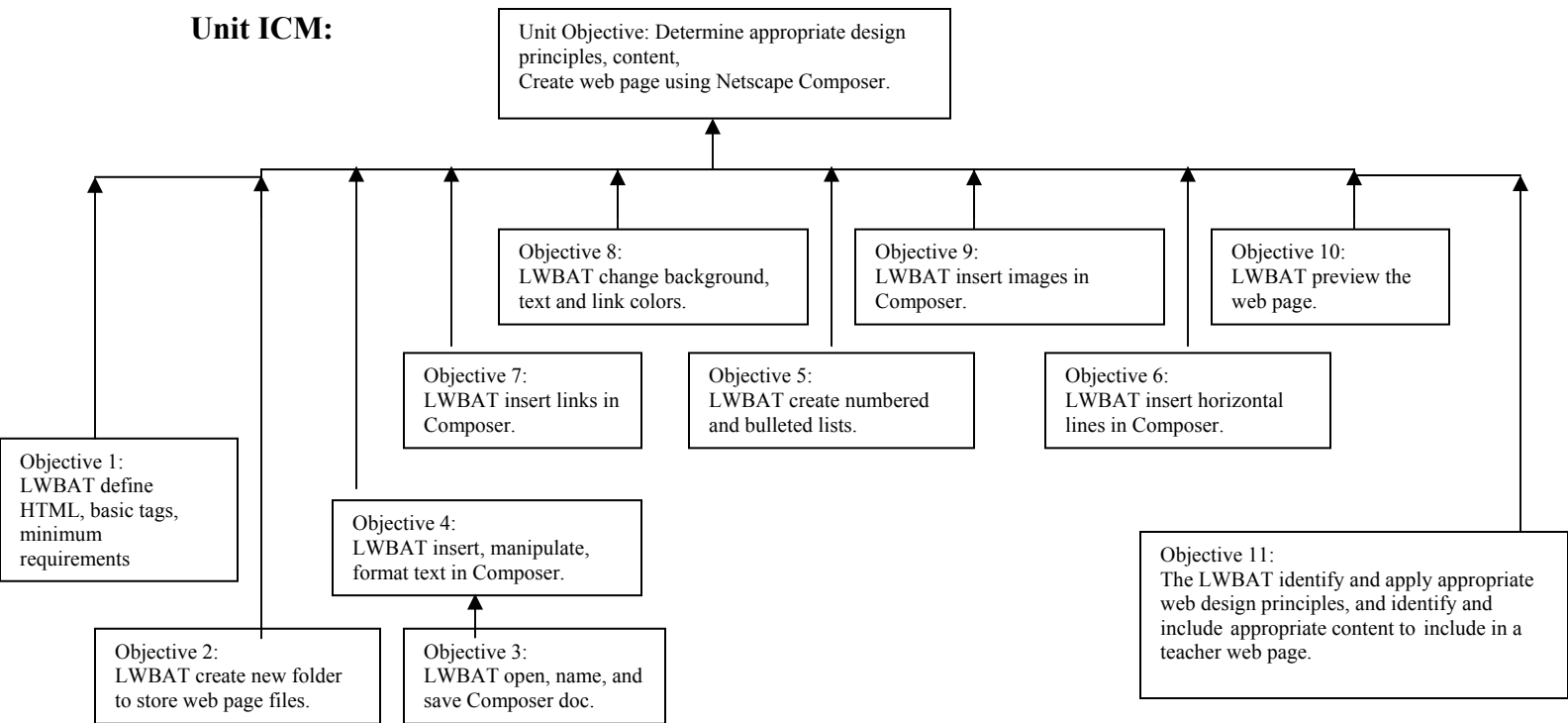
Lesson Objective 8: The LWBAT change the background, text, and link colors of a Netscape Composer web page.

Lesson Objective 9: The LWBAT list the image file formats that web browsers support, download an image from the web and save it to a folder, and insert an image into a Netscape Composer web page.

Lesson Objective 10: The LWBAT preview the Netscape Composer web page.

Lesson Objective 11: The LWBAT identify and apply appropriate web design principles, and identify and include appropriate content to include in a teacher web page.

## Unit ICM:



## III. Design Brief

### A. Macro-Level Strategies

#### *Terminal Objective:*

After completing “Unit 7: Introduction to HTML and Netscape Composer,” students in the College of Education ED101 class will be able to create web pages for their future classrooms that follow good web design principles and provide important and appropriate information for their future students.

#### *Unit Objective 1:*

LWBAT determine good design principles, determine appropriate content for a class web site, create, name, and save an html document containing text, links, lists, colors, horizontal rules, and images using Netscape Composer as well as be able to store it in a new folder and preview it in a web browser.

***Type of learning:*** Procedural Learning

***Macro-strategy:*** The macro-level strategy will be utilization-related. The largest part of the instruction teaches a procedural task. Learning how to use Netscape Composer to create a web page would not be efficient using an inquiry approach. A utilization-related structure allows the teaching of concepts and facts, and provides resources and procedures that will be used in a sequential order. The strategy is also utilization-related because the first concepts

that are taught are the first to be used; the instruction provides foundational information on web page construction and builds to more advanced topics.

An inquiry-related strategy, specifically an exploratory approach, is also used minimally to teach good web design principles and appropriate site content.

## **B. Micro Instructional Design**

### **Task Analysis**

#### ***Terminal Objective:***

LWBAT determine good design principles, determine appropriate content for a class web site, create, name, and save an html document containing text, links, lists, colors, horizontal rules, and images using Netscape Composer as well as be able to store it in a new folder and preview it in a web browser

**Objective 1:** The LWBAT explain what an HTML document is, describe the minimum requirements of a web page, and explain some of the basic HTML tags.

*Type of Learning:* Declarative

#### IPA

1. Define HTML
2. Define Web Browser
3. Describe HTML tags: html, head, title, body, paragraph, bold, a href
4. View source code
5. View sample page

**Objective 2:** The LWBAT create a folder to store the files for a Netscape Composer web page.

*Type of Learning:* Procedural

#### IPA

1. Double Click **My Computer**
2. Double Click [**C:**]
3. Right Click on white space
4. Click **New** and select **Folder**
5. Change name of new folder
6. Press Enter

**Objective 3:** The LWBAT create, name, and save a new document in Netscape Composer.

*Type of Learning:* Procedural

#### IPA

1. Open Netscape **Start Menu > Programs > Netscape**
2. **Communicator > Composer**
3. Save new document **File > Save As**
4. Go to **Save in:** highlight [C:]
5. Double click your folder, enter name in **File Name** field, click **Save**
6. Type “Welcome to my web page!” in Page Title field, click **OK**

**Objective 4:** The LWBAT place, manipulate, and format text in a Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Click in window and type “Welcome to my World”
2. Highlight text and choose **Format**
3. Select **Font** and choose new font, do the same with **Size, Style, and Color**
4. Highlight “Welcome to my World” and make it a heading **Format > Heading > Heading 2**
5. Press enter, type “This is the first Paragraph”
6. Match your page to example
7. Click **File > Save**, or click **SaveButton**

**Objective 5:** The LWBAT create numbered and bulleted lists in a Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Place cursor on new line
2. Choose **Format > List > Numbered**
3. Type “This is line 1” click enter, type “This is line 2” click enter
4. Choose **Format > List > Numbered**
5. Repeat steps 2-4 replacing numbered with **Bulleted**
6. Compare with sample
7. Click **SaveButton**

**Objective 6:** The LWBAT insert horizontal lines in a Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Place mouse at bottom of page
2. Choose **Insert > Horizontal Line**
3. Press Enter, type “Last updated: *today’s date*” and “Authored by: *Your name*”
4. Compare page to example
5. Click **SaveButton**

**Objective 7:** The LWBAT define relative and absolute links, and create a link to another web page from a Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Place cursor on new line, type “Visit the college of education”, press Enter
2. Highlight “Visit the college of education”
3. Choose **Insert > Link**
4. In **Link to a page location or local file** field type <http://www.coe.missouri.edu>, click **OK**
5. Compare page to example
6. Click **SaveButton**

**Objective 8:** The LWBAT change the background, text, and link colors of a Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Choose **Format > Page Colors and Properties**
2. Click the colored rectangle next to **Background**, choose different colors and view them in preview window, set color back to white, click **OK**
3. Repeat steps 1 & 2 replacing Background with **Normal Text, Link Text, Active Link Text, and Followed Link Text**
4. Compare page to sample
5. Click on **SaveButton**

**Objective 9:** The LWBAT list the image file formats that web browsers support, download an image from the web and save it to a folder, and insert an image into a Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Go to <http://www.missouri.edu/images2/logos.html>, right click on logo farthest to the right, choose **Save Image As**
2. In **Save As** box choose [C:] from **Save In** drop-down menu
3. Select your folder and click **Open**, rename image to “mulogo” and click **Save**
4. Place cursor at top of page and press enter.
5. Choose **Insert > Image**
6. Click **Choose File Button**
7. Select “mulogo.gif” from your folder and click **Open**
8. Click **OK**
9. Compare page to sample

10. Click on **SaveButton**

**Objective 10:** The LWBAT preview the Netscape Composer web page.

*Type of Learning:* Procedural

IPA

1. Click **Preview Button**
2. Check that Link works properly
3. Choose **Tools > Check Spelling**

**Objective 11:** The LWBAT identify and apply appropriate web design principles, and identify and include appropriate content to include in a teacher web page.

*Type of Learning:* Declarative and Procedural

IPA

1. Read web sites on choosing the right content for a class web site.
2. View examples and read web sites on good design principles for use on a class web site.
3. Read web site on copyright and fair use laws.
4. View examples of class web sites.
5. Apply knowledge of appropriate content, good design principles, and copyright and fair use laws to creating a teacher web page in the final assignment.

**Micro-Strategies**

1. Terminal Objective: After completing “Unit 7: Introduction to HTML and Netscape Composer,” students in the College of Education ED101 class will be able to create web pages for their future classrooms that follow good web design principles and provide important and appropriate information for their future students.
2. Is the overall strategy expository or inquiry? Why?  
The overall strategy is expository because the task is procedural learning. The best method of accomplishing the task will be presented before asking the students to develop their own examples. However, an inquiry-related strategy, specifically an exploratory approach, is also used minimally to teach good web design principles and appropriate site content.

## Instructional Strategy Chart

**Enabling Objective 1:**  
**LWBAT explain what an HTML document is, describe the minimum requirements of a web page, and explain some of the basic HTML tags.**

Introduction	Body	Conclusion	Assessment
<p>Attention:                      The title of the lesson, Lesson 1: An Introduction to HTML, will be put into a blue gif that draws that captures the eye of the learner.</p>	<p>Prior Knowledge:                      The Lesson does not directly encourage the learner to review particular prior knowledge. It does contain an expository review of the term Web Browser, but it is not safe to assume that this is prior knowledge to all users. This event is trusted mainly to learner-control.</p>	<p>Summarize and Review:                      No summary as this is a short lesson.</p>	<p>Assess Performance:                      This mainly informational lesson will not be assessed by itself. The learners understanding of html will have an effect on the quality of the practice web page they create in lesson 2.</p>
<p>Purpose:                      The objectives of the lesson will be stated in bulleted form at the top of the page after the text, "Upon completion of the Lesson you will be able to:"</p>	<p>Information &amp; Examples:                      The information about HTML and tags will be presented in a didactic form. It will be presented in text form under the heading overview.</p>	<p>Transfer:                      The opportunity for transfer will come in the next lesson. Learners will have this information as relevant prior knowledge when learning to use Composer.</p>	<p>Feedback/Remediation:</p>
<p>Interest/Motivation:                      The motivation is provided in the brief introduction to the entire Unit. The first sentence states, "As a student in the College of Education and as a future teacher, it will be important that you know how to create a web page."</p>	<p>Attention:                      Hyperlinks, opening and closing tags, html, web browser and other particularly important terms will stand out through use of boldface and italics. Once again, section headings will be put in blue gifs to make them grab attention.</p>	<p>Remotivate/Close:                      The lesson will be closed when the learner scrolls down as far as he/she can go.</p>	
<p>Preview:                      The lesson will be previewed through including the lesson objectives as well as having the page number and contents link at the top of the screen.</p>	<p>Learning Strategies:                      Overall strategy: expository                      The presentation of html tags will be a deductive strategy. The rules/concepts/ procedures will be presented before the example. The example comes in the form of a sample section of code followed by a screenshot representing the display of that code.</p>		



<b>Instructional Strategy Chart</b>			
<b>Enabling Objective 1:</b> LWBAT explain what an HTML document is, describe the minimum requirements of a web page, and explain some of the basic HTML tags.			
<b>Introduction</b>	<b>Body</b>	<b>Conclusion</b>	<b>Assessment</b>
	Practice: The learners will be told to match components of the screenshot with their corresponding positions in the source code.		
	Feedback: The feedback is immediate b/c the learner can look at the screenshot to find if his		

<b>Instructional Strategy Chart</b>			
<b>Enabling Objective 2:</b> LWBAT create, name, and save an html document containing text, links, lists, colors, horizontal rules, and images using Netscape Composer as well as be able to store it in a new folder and preview it in a web browser.			
<b>Introduction</b>	<b>Body</b>	<b>Conclusion</b>	<b>Assessment</b>
Attention: The title of each part will be put into a blue gif that draws that captures the eye of the learner.	Prior Knowledge: The same rhetorical questions found in the overview section and described under the Interest/Motivation heading also serve as a way to get the learner to recall prior knowledge.	Summarize and Review: There is no summary or review of each part or of the Lesson as a whole.	Assess Performance: The students personal web sites will be evaluated using a checklist of all the Lesson objectives as well as a rubric to judge the work in context of design principles demonstrated through the use of links to good and bad examples. See assessment description.
Purpose: The objectives of each part will be stated in bulleted form at the top of the page after the text, "Upon completion of the Lesson you will be able to:"	Information & Examples: The information and examples are presented in an expository manner. Graphics are mixed in with procedural step descriptions.	Transfer: In Part 10 students are assigned to create a personal web page or a page to use in a future class. This activity promotes tranfer of the new skills to real life situations.	Feedback/Remediation: See assessment description.
Interest/Motivation: The motivation is provided in the brief introduction to the	Attention: As in Lesson 1, the headings of each part are displayed in	Remotivate/Close: The last screen will be more encouraging and positive in	

## Instructional Strategy Chart

**Enabling Objective 2:**

**LWBAT create, name, and save an html document containing text, links, lists, colors, horizontal rules, and images using Netscape Composer as well as be able to store it in a new folder and preview it in a web browser.**

Introduction	Body	Conclusion	Assessment
<p>entire Unit. The first sentence states, "As a student in the College of Education and as a future teacher, it will be important that you know how to create a web page." In addition, many of the parts will have an "Overview section." In these sections rhetorical questions like "As you browse the Internet, have you ever noticed how large some of the web sites that you visit are?" will be asked. These questions serve to relate the topic to real life experiences.</p>	<p>blue gifs to draw the learners attention. In addition, the strategy of using multiple screenshots help attention gaining as well. The screenshots are more visually interesting that having blocks of text merely describing what the output of certain steps should be.</p>	<p>tone. The text lets the learner know that the Unit is complete and attempts to lift the excitement level back up before the learner moves on to another unit.</p>	
<p>Preview: On each of the nine screens of this lesson the current position within the lesson will appear at the top as well as a link to a table of contents.</p>	<p>Learning Strategies: Because the task is procedural learning, the strategy is expository. Each part follows the same basic pattern. The task is broken into numbered steps. The step is presented using text, followed by a graphical representation of that step being completed is shown. This continues until all the steps have been covered. This is again a deductive strategy because the explanations come before the examples.</p>		
	<p>Practice: In lesson two, the practice should be ongoing. The learners are encouraged to actually follow the instructions on each screen and build a web page as they are completing the instruction. By the end of Part 9, the learners should have a working web page. In Part 10, the learners are</p>		

### Instructional Strategy Chart

**Enabling Objective 2:**

**LWBAT create, name, and save an html document containing text, links, lists, colors, horizontal rules, and images using Netscape Composer as well as be able to store it in a new folder and preview it in a web browser.**

Introduction	Body	Conclusion	Assessment
	assigned to create their own web page using the procedures they have learned.		
	Feedback: The feedback comes in the form of the visual cues included in each screen. The screenshots show how the output correct completion of the steps should produce. Learners can compare this output with their own and get feedback via their computer screen.		

## Media Analysis

<b>Media Analysis Worksheet</b>			
<b>Enabling Objective 1: Upon completion of the lesson, LWBAT describe the minimum requirements of a web page, and explain some basic HTML tags.</b>			
<b>Instructional Events</b>	<b>Prescription</b>	<b>Final Media Choice</b>	<b>Rationale</b>
<b>The media choice for the entire instruction set is web-based.</b>			
Attention	Attention will be gained by showing students examples of good and bad web design principles, the source code, and corresponding page for a web page.	External links	It was quicker to use external links than create internal links illustrating the same concepts.
Purpose	The purpose will be conveyed by explaining to students why it is important to understand how the web and HTML code work when designing a web site.	Text. External links to additional information may be used.	
Interest/Motivation	Interest and motivation will be tied to purpose.		
Preview	The only preview students will have will be code and wysiwyg views of HTML code and the corresponding web page.	Text and screen shot.	
Prior Knowledge	Prior knowledge for this unit will include having a good understanding of basic computer use and computing terminology. These skills will be developed during the previous lessons in the ED101 curriculum.		
Information & Examples	The information students need to complete this lesson will be provided through textual descriptions, external links to examples of web pages, or other resource pages.	Text and external links	

Attention	Attention will be maintained by keeping the material brief and relevant. No other attention grabbing elements will be used.		
Learning Strategies	The information will be declarative. Students will not be given the opportunity to practice using HTML tags in this lesson.  Students will use exploratory learning for the introduction to good design principles.	Text  External links	
Summarize & Review	There will be no official summary of this lesson because it is very short and only serves to provide introductory information before the Netscape Composer lesson.		
Transfer	The transfer will be done by encouraging students to view the source code of the web pages they create (or other external sources) after the Netscape Composer lesson to see how HTML is being used to create the page.	Text – students will use external links and own work	
Remotivate/Closure	Remotivation will be accomplished by encouraging students to pursue learning HTML on their own.	Text, external links (both within the page and in the Resources page)	
Assess Performance	There will be no assessment because this is only introductory information that is not required in order to complete a web page with Netscape Composer.		
Feedback/Remediation	No feedback, but students wanting more information or clarification can email the instructor.	Email	

<b>Media Analysis Worksheet</b>			
<b>Enabling Objective 2: Upon completion of the lesson, LWBAT create a web page with appropriate content for a classroom that utilizes good design principles using Netscape Composer.</b>			
<b>Instructional Events</b>	<b>Prescription</b>	<b>Final Media Choice</b>	<b>Rationale</b>
<b>The media choice for the entire instruction set is web-based.</b>			
Attention	Attention will be gained by having students view excellent examples of teachers' classroom web sites.	External links	
Purpose	The purpose will be conveyed by teaching students how to create a web page in the context as future classroom teachers. This will be done by providing reasons why having the ability to create web pages is important as a teacher, providing rationale that teachers use for creating web pages, and providing examples of teacher web pages.	External links containing rationale that actual teachers used to create web page and examples of good teacher web sites will be used.	
Interest/Motivation	Interest and motivation will be gained by providing examples of teacher web pages that are in use, as well as pages that illustrate general principles of good and bad design.	External links	It will be easier and more interesting to provide this information in external links in a discovery learning method rather than provide the information within the text.
Preview	The examples of teacher web sites will serve as previews of what students should strive to create upon completion of the unit.	External links	Due to the large number of teacher sites dealing with different grades or subject areas, it would be

			easier to provide a list of external links with a variety of sites than to create internal pages illustrating only a handful of principles.
Prior Knowledge	Prior knowledge for this unit will include having a good understanding of basic computer use and computing terminology. These skills will be developed during the previous lessons in the ED101 curriculum.		
Information & Examples	The information students need to complete this lesson will be provided through textual descriptions and screen shots illustrating methods for creating a web page. As students work through the unit, they will literally be creating a web page. This process will serve as a continuous example to ensure that the students are completing each task according to the instructions.	The entire instruction will be web-based. The media will include text, images, and external links.	
Attention	Throughout the instruction, links to external web sites that provide good examples and more information about particular areas of interest will be embedded in the text. Additional information for students wishing to go “a step further” will also be placed at the end of relevant sections in the instruction.	External links and in-text additional information.	
Learning Strategies	The unit will be very procedural as it is primarily a tutorial, but it is also situated within the context to which it	The instruction and discovery learning are web-based.	

	is applied, which is to be used to create a classroom web site. It also has an element of discovery learning in that students will be given numerous external resources from which they form their own opinions about the design and elements they would like to incorporate into a classroom web site.		
Summarize & Review	There will be no explicit summary; a review will be incorporated throughout the instruction because students will be checking their own practice work against the screen shots in the instruction. A “this is what your web page should look like” image will appear at the end of each part for students to check their work against. Students will also be able to go back and review lessons if they need help on the final assignment.	Text and screen shots	
Transfer	The transfer will be done by giving students examples of well-designed sites and challenging them to learn how to create the elements in those examples and to search for new elements to implement. The final assignment will also promote transfer as students will be using their skills to create a web page for their own hypothetical classrooms.	External links	
Remotivate/Closure	Remotivation will be accomplished by encouraging students to find more examples of good classroom web pages,	External links	



	challenging them to learn how to create the elements in those examples, and by challenging them to find other new and interesting elements from other sources to incorporate into their web pages.		
Assess Performance	Performance will be assessed by having students complete a final assignment in which they will create a classroom web site for hypothetical class using the skills they learned in the unit. Students' web pages will have to meet certain criteria, which will include the use of particular elements and good design principles.	Computer-based, students will create a web page in Composer on their machines.	
Feedback/Remediation	Students will receive feedback throughout the unit as they compare their practice work to the examples given in the instruction. If their work does not match that of the image, they will be able to review the instruction and correct their mistakes. The instructor will also provide feedback on the final assignments. Remediation will be done by having students review specific parts they did not comprehend or by giving them additional resources for more information.	Email	

## **C. Assessment Design**

### ***Types of Assessment***

After identifying the objectives for these lessons, the focus of assessment became a constant focus. Correlation of the objectives to the design of the tasks, and the assessment tools were the main focus throughout this design process. The designing of a pre-assessment survey, post-assessment quiz, an attitudinal survey, and a scoring guide for the culminating teacher web page assignment were completed to assess learners' achievement. Because of previous unit content within ED101 addressing the prerequisite knowledge requirements, it was determined that a prerequisite skills assessment was not needed. To determine the learners' level of competence in relation to web page development was an initial focus. To identify what learners already know about web page creation, a criterion referenced pre-assessment survey was created. This on-line, ungraded survey would be administered prior to the students entering into the lessons to be completed.

During the instruction, students will be able to self-assess their own progress. Through the use of numerous screen shots, students will be able to compare their Netscape Composer document to the given visual aid. Through this comparison, students can identify areas in which they need to "take a step back" and review the steps they have completed to make their Netscape Composer document correlate with the given visual example. This self-assessment will provide immediate feedback allowing students to progress through the lesson at an efficient pace.

After the instruction is complete, students are provided with a two separate postassessment activities. Students will complete a performance-based activity web page creation assignment, in addition to a terminology application quiz. These assessments will provide feedback to determine if the learner has achieved both the enabling objectives and the terminal objective of these lessons. With this information further assistance can be provided, sending learners to remedial instruction as necessary.

Finally, an assessment of the actual instructional materials will be completed. Learners will be asked to complete an attitudinal survey, to determine any problem areas that are evidenced as performance problems throughout the provided instruction. With this information, further revisions to the current instructional materials may be made.

### ***Item Specifications:***

The form of the preassessment survey and the postassessment quiz will be a mixture Blackboard graded assessment items. Assessment characteristics include multiple-choice, fill-in-the-blank, and matching, and ordering items. The preassessment survey and postassessment quiz are identical with the exception of containing different descriptions, and instructions, because these test items have been designed to assess students' declarative knowledge. Because of the limitations of time, only the most critical subordinate objectives have been included. Objectives not addressed in these assessments are addressed in the performance assessment scoring guide, as stated below. It is important to note that this form of assessment has been requested by the

COE faculty overseeing the disbursement of this course, because of financially related issues to the facilitation.

The performance assessment activity, “Creating a Web Page With Netscape Composer” will be the creation of a web page, graded by a scoring guide. This scoring guide provides the evaluator a way to objectively assess the students’ performance, and allows the student to see the exact expectations he/she must meet. Each element within the scoring guide directly correlates with the stated lesson objectives. In addition to the scoring guide, students are given an “Assignment Description” document in which the assignment is brought further into the context of the pre-service teacher, and includes an extensive explanation of the components to be included in the web page. Upon completion, students’ web pages will then be graded via the provided scoring guide.

The following objectives are the basis for the creation of the assessment tools:

**Terminal Objective:**

After completing “Unit 7: Introduction to HTML and Netscape Composer,” students in the College of Education ED101 class will be able to create web pages for their future classrooms that follow good web design principles and provide important and appropriate information for their future students.

**Enabling Objective 1:**

LWBAT explain what an HTML document is, describe the minimum requirements of a web page, and explain some of the basic HTML tags.

**Enabling Objective 2:**

LWBAT create, name, and save an HTML document containing text, links, lists, colors, horizontal rules, and images using Netscape Composer as well as be able to store it in a new folder and preview it in a web browser.

**Enabling Objective 3:**

LWBAT identify and apply appropriate web design principles, and identify and include appropriate content to include in a teacher web page.

The response characteristics of the preassessment and postassessment quizzes differ depending on the type of assessment item. Multiple choice, fill-in-the-blank, matching, ordering, and multiple answer assessment items will be used in to assess the student’s knowledge. When choosing the type of assessment item appropriate to assess knowledge of an objective, the designers will review the information and terminology(ies) being addressed, and determine where students may have common misconceptions. These common misconceptions will be the basis from which the type of assessment item is chosen, and the responses constructed. Example preassessment survey and the postassessment quiz assessment items and responses can be found below.

The response characteristics of the postassessment performance-based activity differ from that of the preassessment survey and the postassessment quiz, addressed of earlier. The characteristics of a correct response to the criteria outlined in the checklist, can vary greatly in look, purpose, and placement in the web page. This activity allows the students to demonstrate their competence in the above-stated objectives, while expressing their own creativity and

adhering to appropriate web design principles and educational content. There is no one right answer, except for each learner to include all of the required components of the web page. Because of this and the fact that the COE faculty overseeing the disbursement of this course has requested a time-efficient assessment tool, this scoring guide has been designed in this format. Example scoring guide assessment elements and point values can be found below.

There are sixteen assessment items for each of the preassessment survey and postassessment quiz. These assessment items focus upon declarative knowledge related to web page design. The postassessment performance activity scoring guide will include fifteen elements which are required in the “Creating a Web Page With Netscape Composer” web page assignment. Each element found within the scoring guide is different, and asks the student to not only practice the procedural skills taught within the lessons, but also to apply their knowledge about web page design principles and content appropriate and applicable to a teacher web page, to earn these points.

The mastery level of the “Netscape Composer” unit is yet to be determined. The instructional designers involved in the project cannot make this decision. This decision is to be made by the UMC-COE Teacher Development Committee. They are in the process of deciding if this course, as a whole, should be a Pass/Fail course, or if it should be assigned a letter grade. Mastery level can be determined based on the decision generated by this committee.

Examples of the assessment items included in the preassessment survey and the postassessment quiz:

**EX: Matching:**

Match the link's state with the correct descriptor:

- |                        |   |
|------------------------|---|
| _____ 1. Followed Link | A. This is the state of a link that has already been visited. |
| _____ 2. Link          | B. The normal state of a link before it is clicked.           |
| _____ 3. Active Link   | C. This is the state of a link while it is being clicked.     |

**EX: Multiple Choice:**

\_\_\_\_\_ is a general term for selectable connection which takes viewers to other text, other web sites, files, graphics, music, video, or any other objects that can be created and placed in a web page.

- A. highlight
- B. hyperlink
- C. weblink
- D. target

Examples of the assessment items included in the “Creating a Web Page With Netscape Composer” web page assignment:

**EX: Element #5.**

The web page has a numbered OR bulleted list of at least three items. (1)

0 1

**EX: Element #14.**

Grade Level and/or Subject Area and/or Specialization are stated in the Web Site index page. (1)

0 1

## **IV. Formative Evaluation Report**

### **A. Description of Field Test**

There were initially three users contacted to participate in the field test. Unfortunately, two of them notified the evaluators on Thursday that they were unable to participate at the field test. User A was still able to participate, and User B agreed to participate at the last minute.

User A was evaluated Friday, May 3 at 5:00 p.m., and the evaluation lasted one hour and 45 minutes. The evaluation took place in 108 Townsend, a large open office area, where she was assigned her own computer and desk area at which she could complete the lesson. The user is a freshman College of Education student. She had no previous experience with HTML or web page authoring programs, which placed her in the low range of the target population.

User B was evaluated on Saturday, May 4 at 6:00 p.m., and the evaluation lasted one hour and 15 minutes. The evaluation took place in 733 Clark in a small computer lab of ten computers, in which there were no other people present. The user was allowed to choose a computer to use. The user is a senior in the College of Education completing his student teaching experience. The user has some experience with Microsoft FrontPage, and feels extremely comfortable using computers and learning new applications. The user's skills placed him in the high range of the target population.

The evaluation was implemented by first providing an opening and explaining to the users about the purpose of ED101 and this unit, the purpose of the evaluation, and how the evaluation would proceed (Appendix C.1). The users first completed a pretest in Blackboard, and the answers were recorded. Feedback, including the correct answers, was provided immediately by Blackboard, and users were not allowed to retake the quiz (results in Appendix D.3). Next, as the users progressed through the instruction, the evaluators made observations about their progress and any difficulties they encountered on hard copies of the instructional materials, and the data was later transferred to a data and interpretation chart (Appendix C.2). The users were also encouraged to speak aloud any thoughts they had at any time during the instruction, and these comments were recorded as well. Upon completion of the instruction, the users took a posttest in Blackboard, and the answers were recorded. Feedback, including the correct answers, was provided immediately by Blackboard (results in Appendix D.3). The users then completed the final assignment in Netscape Composer, which was assessed with a scoring guide (Appendix C.4). Due to the length of the evaluation, User A was under a time constraint, so she was not required to complete all the elements in the final assignment. She was however asked to communicate her ideas verbally. Both users completed an attitude questionnaire (Appendix C.3), and the results were tallied in the questionnaire data summary table (Appendix

D.4). Users were then asked debriefing questions (Appendix C.5) and asked if they had any additional comments or questions for the evaluators before being thanked for their time.

## **B. Results of Field Test**

Overall, the data collected from the posttests, final assignments, and attitude questionnaires revealed that the instruction was very effective. Both users performed better on the posttest as compared to the pretest, but User A's improvement was much greater than User B. Both users were able to complete the requirements sufficiently for the final assignment. The attitude questionnaires also reflected that the users were satisfied with the instruction and their performances.

The verbal responses informally and from the debriefing questions and attitude questionnaire results for both users indicate that the learners believed the instruction to be effective. In particular, both users rated their responses to the following question as either agree or strongly agree:

*The unit lived up to my expectations.*

*The content is relevant to my interests as an education major and as a future teacher.*

*The unit activities stimulated my learning.*

*I will be able to use what I learned in this course.*

User A's desire to keep her web page relates to her satisfaction with the instruction. User B felt the instruction was too simple. While he thought the instruction was useful, he was somewhat bored with it. Both users commented that they thought this instruction would be very helpful for College of Education students. User B commented that he wished this instruction was available when he was a freshman.

All goals and objectives were met sufficiently. However, while students were able to use good design principles and choose appropriate content for the final assignment, the evaluators determined that users did not meet Objective 11 to the degree they had hoped. This is probably due to the discovery learning strategy invoked to teach this objective and the subjective nature of assessing the skills learned in this objective.

Both users indicated during the debriefing questions that they felt they gained more knowledge from this instruction. While User A occasionally had difficulties in the lesson and felt the lesson was too long, she felt she learned a lot of useful information. She seemed pleased with her work on the final assignment, as she asked to take it with her. User B also felt that he learned from this lesson. He felt that he knew a lot of the information presented, but he did feel that some of the examples dealing with page design and layout were useful. He also said that seeing examples of teacher web sites gave him some ideas for creating a web site in the future.

Through the debriefing questions, it was determined that overall the users enjoyed the instruction as well. User A was frustrated at how long the instruction took, but was glad she was able to participate in the evaluation. She felt she had learned a lot of useful information. User B said he was somewhat bored with the instruction, but he still enjoyed it. He felt that there was enough information that was new to him and good examples in the instruction that he was glad he participated.

### C. Data Tables

The results and revisions of the one-to-one user evaluations are listed in the tables below.

**User:** User A

**Conducted by:** Sarah LaVaute

**Date:** May 3, 2002

*When objectives are not referenced, information is being provided about a specific content area within the instructional materials that is not related to an objective.*

<b>One-to-One Data and Interpretation</b>			
<b><i>Objective</i></b>	<b><i>Data Source</i></b>	<b><i>Information Gained</i></b>	<b><i>Revision Decision</i></b>
	Pretest/Posttest	The subject struggled with the ordering questions, numbers 6 and 15. She did not fully complete either question in the pretest. She also indicated that she was a “visual learner.”	These questions may be too difficult to answer without visual aids. They should either be revised or removed.
	“Instructions”	Arrows used clearly note the use of navigation tools.	N/A
	“Instructions”	The graphic which shows the exact same navigation options, as shown above in the page is confusing. These are images – not able to use for navigation.	It will be noted that the graphic image of the navigation choices are an example to reference for further understanding.
Lesson Objective 1	“Excursion” Lesson 1: Intro to HTML	User stated that she liked this option for further information.	N/A
Lesson Objective 1	Lesson 1: Intro to HTML	Examples made sense. Subject stated that she is a visual learner, so the pictures really helped make it clear, “how it worked”.	N/A
Lesson Objective 2	NC: Part 1 Preparing to Create A Web Page	Subject completed content related to this objective section with no comments and/or problems.	None
Lesson Objective 11	“Excursion” NC: Part 1 Preparing to Create A Web Page	Subject stated that she enjoyed reviewing the resources offered about the teacher web pages.	N/A
	NC: Part 1 Preparing to	Subject had problems navigating.	None – this was attributed to her

	Create A Web Page		novice level of tech knowledge.
Lesson Objective 3	NC: Part 2 Create, Name, and Save an HTML Document	Subject had problems accessing the “C” drive and titling the folder correctly. Subject attempted to create a folder three times, the third time was successful.	None - this was attributed to her novice level of tech knowledge, and the fact that she was rushing through the lesson. Upon slowing down the pace, and rereading the content, the user was successful.
Lesson Objective 4	NC: Part 3 Adding and Formatting Text	Subject identified a discrepancy in the appearance of the screen shot versus her actual NC page document. The text size within the screen shot was larger than the actual NC page, which she was creating. The images did not look the same, although the text settings were the same.	Present screen shots in this section, relating to the text elements, will be removed and replaced with screen shots which are an accurate visual of what the user’s page should look like.
Lesson Objective 5	NC: Part 4 Creating Numbered and Bulleted Lists	Subject did not complete “Step 3” correctly, by spacing as instructed.	None – Subject had not followed instructions. Subject went back and self-corrected herself successfully after re-reading the instructions.
Lesson Objective 6	NC: Part 5 Adding Horizontal Lines to Your Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 7	NC: Part 6 Adding Links to Your Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 8	NC: Part 7 Changing the Background, Text, and Link Colors	Learner stated everything was very clear and easy to follow.	N/A
Lesson	NC: Part 8	Subject skipped through	N/A



Objective 9	Inserting an Image into a Web Page	the first steps, reading each step as she went. She then went back and completed the steps slowly and accurately.	
Lesson Objective 10	NC: Part 9 Previewing Your Web Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 11	NC: Part 10 Designing Your Own Web Page	Subject did not look through all links because of time constraints. Subject stated that she liked number of resources offered and that it was not overwhelming. Subject stated that the number of resources available gave students choices that would result in a greater variance in their final web pages design and content choices.	None – The time limitation issue will not be a problem during regular student use.
Lesson Objective 11	“Creating a Web Page” Assessment	Subject completed this section with no comments and/or problems.	None

**User:** User B

**Evaluated by:** Brice Jewell

**Date:** May 4, 2002

*When objectives are not referenced, information is being provided about a specific content area within the instructional materials that is not related to an objective.*

<b>One-to-One Data and Interpretation</b>			
<b><i>Objective</i></b>	<b><i>Data Source</i></b>	<b><i>Information Gained</i></b>	<b><i>Revision Decision</i></b>
	Pretest/Posttest	Subject said question 6 was too complicated. Subject did not complete it in the pretest and was clearly frustrated with it on the posttest. During the posttest, he said he could complete the task if he was using the program, but the couldn't remember the names that were used.	Further testing will be needed to determine if an adjustment should be made. This question may be simplified or removed.

	Pretest	Like question 6 mentioned above, the subject said question 15 was too complicated.	Further testing is needed to determine if a change should be made. This user may just be impatient.
	“Instructions”	Subject said he frequently has to use Mac computers in the Reflector.	Keyboard instructions will be added for Mac users, but screen shots on the Macintosh operating system will not be added because the download time and length of each page would be greatly increased.
Lesson Objective 1	“Excursion” Lesson 1: Intro to HTML	User stated that the example of the badly designed site was really good. He suggested we explain why one is bad and why one is good.	This is simply an introductory activity designed to gain attention. No further explanations will be added at this point in the instruction.
Lesson Objective 1	Lesson 1: Intro to HTML	Subject quickly went through this section. He spent time comparing the image of the web page to the HTML code. He skipped the Excursion at the bottom of the page.	None
Lesson Objective 2	NC: Part 1 Preparing to Create A Web Page	Subject quickly completed the tasks in this lesson with no difficulty.	
Lesson Objective 11	“Excursion” NC: Part 2 Create, Name, and Save an HTML Document.	Subject read the Excursion, but did not follow the links. Subject stated that he knew how web pages worked.	Subject seems to be skipping and not spending much time on the Excursion sections. Is there a way to encourage the students to look at them more carefully?
Lesson Objective 3	NC: Part 2 Create, Name, and Save an HTML Document	Subject noted a typing mistake in item 6.	It should read, “After you save the file.”
Lesson	NC: Part 3	After completing this	This was a very useful

Objective 4	Adding and Formatting Text	section, the user asked the evaluator if there were any sources that discussed appropriate fonts for the web.	comment. Information will be added to address this point either as text within the document or through external links.
Lesson Objective 5	NC: Part 4 Creating Numbered and Bulleted Lists	The subject scrolled to the bottom of the page to see the final screen shot and began trying to create it without reading the instructions above. When he became confused trying to switch from a numbered to bulleted list, he returned to the top to read the instructions. He commented that the screen shots were very good and helpful in completing the lessons.	None. This user is simply more advanced and trying to quickly complete the lesson.
Lesson Objective 6	NC: Part 5 Adding Horizontal Lines to Your Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 7	NC: Part 6 Adding Links to Your Page	Subject did not read the Excursion section. Subject completed this section with no comments and/or problems.	None
Lesson Objective 8	NC: Part 7 Changing the Background, Text, and Link Colors	Subject asked why some menu headings and buttons are bolded in the instructions but Enter in "Press Enter" is not.	The instruction will be reviewed and all instances of keystrokes will be bolded for consistency. If other keystrokes and mouse-clicks are highlighted in bold, then changes like making "Enter" bold should be made as well.
Lesson Objective 11	"Excursion" NC: Part 7 Changing the Background, Text, and Link	Subject spent several minutes using the color picker. He said that was a very useful web site. He also said the examples on	None

	Colors	background colors were useful. He said he thinks there are a lot of people that don't realize how important color choices are.	
Lesson Objective 9	NC: Part 8 Inserting an Image into a Web Page	Subject completed this section with no problems.	None
Lesson Objective 10	NC: Part 9 Previewing Your Web Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 11	“Excursion” NC: Part 9 Previewing Your Web Page	Subject thought the pictures of page layouts were very good. He suggested creating a picture or template like that for a teacher web site.	None – The aspects of this unit that deal with web design and content are supposed to be gained through discovery learning. It is hoped that students will create their own mental picture of what a teacher site should look like.
Lesson Objective 11	NC: Part 10 Designing Your Own Web Page	Subject did read the headings in each section and some of the descriptions, but did not look at any sites until he got to the teacher web site examples. He said the more examples of good teacher sites that could be provided, the better it would be for students.	None
Lesson Objective 11	NC: Part 11 Additional Resources	Subject quickly skimmed the list of resources. Subject noted that in previous links to web sites, the pages opened in new windows, but the links on this page opened within Blackboard.	The source code of this page will be changed so that all links open in new windows.
	NC: Part 12 Putting Your Site Online	Subject said this information was very useful and requested a hard	None

		copy of it so that he could upload his web pages in the future.	
Lesson Objective 11	“Creating a Web Page” Assessment	Subject used <a href="#">Mrs. Ross’ First Grade Class</a> web site as an example for the final assignment. He used center alignment and spaces to create the table of contents. He completed the assignment with no problems.	The table of contents on Mrs. Ross’ First Grade Class web site used tables for layout purposes. A unit on creating tables in Netscape Composer should be added to the instruction.
	“After instruction”	After completing the instructional materials, the subject asked if it would be possible to use videos of the tasks instead of screen shots.	This option will be explored. Video will probably not be used entirely, but it could be used to supplement the instruction. The primary concern with using video is the length of the download time needed to view a video clip.

#### D. Recommendations for Revisions

The formative evaluation for this instruction on creating a web page with Netscape Composer yielded very valuable information including a few major recommendations for revision and several minor recommendations. The major revisions include inserting new screen shots, providing instructions for Macintosh users, and providing scaffolding to encourage students to read the “Excursion” sections of the course.

First, the new screen shots should be added in two parts of the course. The navigation bar graphic in the “Instructions” section needs to be modified so that the user can explicitly identify that it is a picture. This revision is a result of User A attempting to use the screen shot to navigate through the course. Next, screen shots relating to text elements in “Part 4” of the course should be removed and replaced with accurate screen shots that replicate what the user would see as he/she completes the required instructions in this section. Presently, the screen shots have correct format “settings” in the screen shot, but appear to be bigger than they are in real life. The difference confused User A, and caused her to jump back and forth several times until she identified that the format settings were correct in the screen shot, but that the screen shot inaccurately depicted how the screen would look during the lesson.

Second, the additional instructions for Macintosh users will be added. The present instruction for this course specifies that users should use PC computers to complete the lesson. The designers considered including screen shots for the Macintosh operating system, but determined that they would not be added due to the greatly increased download time and length

of each page, which would result. To remedy this situation for Macintosh users, they will be provided with the correct instructions pertinent to the Macintosh operating system, as the steps of the lessons are completed. For example, while PC users will be given instructions to right-click, Macintosh users will be instructed to click and hold.

Finally, additional scaffolding for students will be added to the present lessons. This scaffolding will provide extra “incentive” for students to link to the provided resources in the “Excursion” sections. The need for scaffolding was identified when both users skipped many of the “Excursion” sections. By skipping these sections, the users were not sufficiently exposed to the information pertaining to web page design and content of teacher web pages. The inquiry-based learning objective was compromised. By stating that these “Excursion” links are required reading containing knowledge about which the students will be later held more accountable for applying, this problem will be addressed.

There are several minor revisions to be made to the instructional materials. In the pretest and posttest there are two questions that require students to put six or more specific steps in order. Both users had difficulty with these questions on both the pretest and posttest, which indicated to the evaluators that the problem may not be the content of the question, but the format instead. User A also stated that she had difficulty with the questions because she was a visual learner. The steps in the sequences will be combined and broadened in order to make the ordering task simpler.

Some text needs to be revised to make it appear more consistent. The present instruction within the pages provides for inconsistent menu headings and buttons, as identified by User B. To provide for improved formatting consistency, the instruction will be reviewed and all instances of keystrokes will be bolded.

In “Part 2” of the lesson, one typographical error was found. This will be corrected by changing the instruction, from “After you save the picture,” to “After you save the file.” In this part of the lesson, students are to actually save a file, not a picture. By removing “picture” and replacing it with “file” students will not be confused by the instruction and terminology used.

An additional minor revision which must be made includes making all links from the “Part 11: Additional Resources” open in new windows. Presently this part of the course is the only place where “target=\_blank” is not entered for every link in the code. The source code of this page will be changed so that all links open in new windows.

The last of the minor revisions entails providing further information about web page design into the instruction. Because some of the web page examples provided in the instruction included the use of tables, students may expect to be able to automatically design a page in this format. By creating a unit which offers instruction about creating tables in Netscape Composer, students will be able to go further in the instruction, if so desired. Additional information about the appropriate use of fonts for web page design will also be added to the instructional materials, after User B inquired about further information on this topic and had found none available in the “Additional Resources” page.

## **E. End-of-Project Summary**

From the very beginning, the “Creating a Web Page with Netscape Composer” redesign presented unique challenges to the Instructional Design Team. Going into the project, the team members had a clear vision of the revisions that needed to be made to the unit that was founded on the results of the initial analysis of the previous version. The unit was a bland, bare bones tutorial in its original form. It required higher quality media choices to support the procedural

learning. It also needed to be put in a reality-based context. The unit's intended audience was University of Missouri – Columbia's Freshmen College of Education students, and these learners needed not only to be shown how to use Netscape Composer, but also shown design principles and content choices that separate effective and well-designed classroom web sites from poor planned and ill-structured classroom web sites. With this clear vision in mind, it was the process of implementing this vision that presented the most problems. The Design Team through this experience learned many lessons.

While the "Excursion" activities seemed to be a useful way to address this problem in the design phase, user testing determined that the students did not use these activities to the extent expected. The greatest problem, and one that was never resolved, was how the Design Team could require the students to participate in the "Excursion" activities and then accurately assess the knowledge they gained from these inquiry-based learning activities.

The Design Team also learned to place greater emphasis on aligning assessment activities with the instructional objectives. After conducting research of other units in the ED101 curriculum and conducting a needs assessment, it was difficult for the Design Team to redesign the "Creating a Web Page" unit based on the objectives, rather than the preexisting structure of ED101. This was a difficult task for the Design Team at first, but they felt that redesigning the instruction through the use of the lesson objectives as a framework, they were able to produce a useful and effective set of instructional materials.

Between the creation of the initial Design Brief and the finished report, a post-assessment quiz to assess declarative knowledge and an attitudinal survey were added to the list of assessment items. Additionally, a pre-assessment survey and a final web page assignment description and scoring guide were designed and included in the final learning unit. The Design Team felt the addition of these elements contributed to the overall success of the instruction and the formative evaluation. These additions provided for a better measurement of student aptitude both before and after completing this unit.

While the one-to-one user testing yielded important information, the Design Team concluded that more evaluation methods need to be employed to effectively address the identified revisions in the instruction. If this evaluation were to continue, a focus group interview would be a very helpful instrument to use. Ideally, a pilot test conducted with a group of students who will actually be given a grade in a regular course for their work in this instruction would be the perfect environment to conduct an evaluation.

Finally, the Team learned a valuable lesson about the execution of formative reviews. Given the chance to do the project over, the user reviews would be scheduled farther from the project deadline. The Team did not leave enough time to account for cancellations by subjects, which became a problem. Scheduling the sessions further in advance as well as additional follow up contacts with subjects to strengthen their commitment could help avoid this problem in the future.

## **V. Instructional Products**

The instructional materials used for the "Creating a Web Page with Netscape Composer" unit can be found in the University of Missouri's College of Education Blackboard web site at <http://courseinfo.coe.missouri.edu>. Use the username "guest1" and the password "1234" (without quotes) to enter the site. Once logged in, click the link under "Courses" labeled "Technology Skills for Teacher Education Students." Next, click the "Course Documents"

button. The “Creating a Web Page” unit is labeled “Netscape Composer Revised” until final revisions are made and the unit is ready for use. Click the link above to view the instructional materials.



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## Appendix A – Needs Assessment Analysis Tools

Appendix A contains all of the tools used in the needs assessment analysis. The structures for the observation log, expert questionnaire, and user questionnaire were borrowed from instructional materials published by Dr. Thomas Reeves of the University of Georgia at <http://it.coe.uga.edu/~treeves/edit8350/tools.html>.

1.	Observation Log.....	41
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## A.2 EXPERT EVALUATION OPENING

**Note:** The Subject Matter Expert for this formative evaluation, Dr. Jane Howland, is the administrator overseeing the instructional designer assigned to the ED101 project. She has worked with the ED101 project for over a year. Because of this fact, the following opening statement addresses the formative evaluation focus and the reasoning behind this process being conducted.

**Statement:**

Thanks again, Dr. Howland, for agreeing to help us evaluate this instruction. As you know, this unit will be part of the ED101 course curriculum. The “Creating a Web Page” unit we will be looking at today focuses on both the HTML lesson, and the Netscape Composer lesson. We estimate that this evaluation process should take about an hour and a half to complete.

As we have discussed, this Netscape Composer unit is still being developed. We really need your help to make these materials as good as possible. You can help us the most by telling us exactly what you think of the materials. If you think it is boring, too easy, too difficult, very helpful, or anything else, we would really appreciate your input. We believe that your expertise in the areas of web development, teaching on-line courses, and developing on-line instructional materials will be invaluable to the development of this unit and can assist us in the revision of the other units within ED101.

It would also greatly help us if you could speak aloud as you go through the lesson. Just say what you are thinking as you go through, and feel free to ask questions or make suggestions at any time. This will really help us because we have looked at this so many times that it is hard for us to guess what it would be like to use it for the first time. So by speaking aloud as you work, you will be giving us a lot of information about what it is like to do the lesson.

As you know, ED101 is offered through the COE Blackboard 5 platform. Please access this to follow the tutorial. You will begin the unit by reading a set of instructions about navigating through the lesson on Blackboard. You will then read a basic introduction to web pages and HTML. Next, you will begin working through the Netscape Composer tutorial and learn how to make a web page. After it is all finished, we would really appreciate it if you would fill out a brief questionnaire about the unit, and then address any specific questions that we have not covered elsewhere. That’s it! Do you have any questions for us before we begin?

### A.3 EXPERT EVALUATION QUESTIONNAIRE

**REVIEWER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

Please circle your rating and write comments on each aspect of the ED101 Netscape Composer Unit. 1 represents the lowest and most negative impression on the scale, 3 represents an adequate impression, and 5 represents the highest and most positive impression. Choose N/A if the item is not appropriate or not applicable to this course. Use the space provided after each item for further comments. If more room is needed

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

#### AREA 1 - INSTRUCTIONAL DESIGN REVIEW

1. The information in the unit is accurate. N/A 1 2 3 4 5  
*Comments:*

2. The information in the unit is current. N/A 1 2 3 4 5  
*Comments:*

3. The information in this unit is sufficient in scope. N/A 1 2 3 4 5  
*Comments:*

4. Information in this unit is provided in a precise and orderly fashion. N/A 1 2 3 4 5  
*Comments:*

5. This unit provides learners with a clear knowledge of the unit objectives. N/A 1 2 3 4 5  
*Comments:*

6. The instructional interactions in this unit N/A 1 2 3 4 5

are appropriate for the unit objectives.

*Comments:*

7. The instructional design of this unit is based on sound learning theory and principles.

N/A 1 2 3 4 5

*Comments:*

8. Instructions given throughout the unit are clear.

N/A 1 2 3 4 5

*Comments:*

9. The feedback in this unit is clear.

N/A 1 2 3 4 5

*Comments:*

10. The pace of this unit is appropriate.

N/A 1 2 3 4 5

*Comments:*

11. The difficulty level of this unit is appropriate.

N/A 1 2 3 4 5

*Comments:*

12. All objectives in this unit are weighted appropriately throughout the unit.

N/A 1 2 3 4 5

*Comments:*

13. The activities in this unit gave the user sufficient practice and feedback.

N/A 1 2 3 4 5

*Comments:*

14. The content is relevant to the users' present role as a College of Education pre-service teacher and as a future professional teacher.

N/A 1 2 3 4 5

*Comments:*

15. The content is related to the context in which the student will apply these skills (student, future teacher).

N/A 1 2 3 4 5

*Comments:*

16. The unit provides for interactivity, and is not formatted in solely procedural instruction.

N/A 1 2 3 4 5

*Comments:*

17. Remedial resources offered are of significant quality (current, accurate, designed well) and service the needs of various learning styles and needs.

N/A 1 2 3 4 5

*Comments:*

## **AREA 2 - COSMETIC DESIGN REVIEW**

18. The screen design of this unit follows sound principles.

N/A 1 2 3 4 5

*Comments:*

19. Color is used appropriately within the unit.

N/A 1 2 3 4 5

*Comments:*

20. The screen displays are easy to understand.

N/A 1 2 3 4 5

*Comments:*

21. The use of images is appropriate throughout the unit. N/A 1 2 3 4 5

*Comments:*

22. This unit is accessible by most users. N/A 1 2 3 4 5

*Comments:*

### **AREA 3 - PROGRAM FUNCTIONALITY REVIEW**

23. This unit's navigation operates flawlessly. N/A 1 2 3 4 5

*Comments:*

### **AREA 4 – OVERALL UNIT REVIEW**

24. How would you improve this unit? (Check all that apply.)

- |  |   |
|--|---|
| <input type="checkbox"/> Provide better information before unit.   | <input type="checkbox"/> Clarify the unit objectives.                       |
| <input type="checkbox"/> Reduce content covered in unit.           | <input type="checkbox"/> Increase content covered in unit.                  |
| <input type="checkbox"/> Update content covered in unit.           | <input type="checkbox"/> Improve the instructional methods.                 |
| <input type="checkbox"/> Make unit activities more stimulating.    | <input type="checkbox"/> Improve unit organization.                         |
| <input type="checkbox"/> Make the unit less difficult.             | <input type="checkbox"/> Make the unit more difficult.                      |
| <input type="checkbox"/> Slow down the pace of the unit.           | <input type="checkbox"/> Speed up the pace of the unit.                     |
| <input type="checkbox"/> Allot more time for the unit.             | <input type="checkbox"/> Shorten the time for the unit.                     |
| <input type="checkbox"/> Improve the assessments used in the unit. | <input type="checkbox"/> Add multimedia elements such as video to the unit. |

*Comments:*



#### **A.4 EXPERT EVALUATION DEBRIEFING QUESTIONS**

1. Do you think there should be a resources page with links to external sites?
2. Do you think instruction should be given on how to create zip files and on how to upload web pages?
3. Are there any parts of the units or of the instruction that need to be better explained or clarified?
5. Do you think the instruction sufficiently covers the skills pre-service COE teachers need to have to successfully create a web page?
6. What is least valuable about this unit?
7. What is most valuable about this unit?
8. What other improvements would you recommend in this course?

## A.5 USER EVALUATION OPENING

Thanks again \_\_\_\_\_ for agreeing to help us evaluate this instruction. This unit will be part of a course called ED101 that will be offered to freshmen COE pre-service teachers. ED101 will be offered completely online. The main goal of this course is to teach pre-service UMC-COE students basic computing skills. Some of the skills covered in the course will be performing Internet searches, sending email, using Word, using Excel, using PowerPoint, and creating a web page with Netscape Composer. As you know, the unit we will be looking at today is on creating a web page. The lesson should take about an hour to complete.

This Netscape Composer unit is still being developed. We really need your help to make these materials as good as possible. You can help us the most by telling us exactly what you think of the materials. If you think it is boring, too easy, too difficult, very helpful, or anything else, we would really like you to tell us. You aren't being graded on how well you do in this exercise and we won't be upset if you don't like something, so you don't have to worry about anything. Please just work through the lesson and complete the exercises as best you can. It would also really help us if you could speak aloud as you go through the lesson. Just say what you are thinking as you go through, and feel free to ask questions or make suggestions at any time. This will really help us because we have looked at this so many times that it is hard for us to guess what it would be like to use it for the first time. So by speaking aloud as you work, you will be giving us a lot of information about what it is like to do the lesson.

Because ED101 will be online, you will use Blackboard to follow this tutorial. You will begin the unit by reading a set of instructions about navigating through the lesson on Blackboard. You will then read a basic introduction to web pages and HTML. Next, you will begin working through the Netscape Composer tutorial and learn how to make a web page. After the tutorial, we would like you to create a simple web page of your own following a few guidelines. After it is all finished, we would like you to fill out a brief questionnaire about the unit. That's it! Do you have any questions for me before we begin?

## A.6 USER EVALUATION QUESTIONNAIRE

Unit Name: \_\_\_\_\_ Training Location: \_\_\_\_\_

Participant Name (optional): \_\_\_\_\_ Date: \_\_\_\_\_

Year in school: Fresh Soph Jr Sr

### INSTRUCTIONS:

Please circle your response to the items. Rate aspects of the course on a 1 to 5 scale, where 1 equals "strongly disagree" and 5 equals "strongly agree." The number 1 represents the lowest and most negative impression on the scale, 3 represents an adequate impression, and 5 represents the highest and most positive impression. Choose N/A if the item is not appropriate or not applicable to this course. Your feedback is sincerely appreciated. Thank you.

### A. UNIT CONTENT: (Circle your response to each item.)

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

1. I was informed about the overall goal of this unit. N/A 1 2 3 4 5

*Comments:*

2. I was well informed about the specific objectives of this unit. N/A 1 2 3 4 5

*Comments:*

3. The language of instructional materials within this unit is clear and easy to understand. N/A 1 2 3 4 5

*Comments:*

4. This unit lived up to my expectations. N/A 1 2 3 4 5

*Comments:*

5. The content is relevant to my interests as an education major and as a future teacher. N/A 1 2 3 4 5

*Comments:*

### B. UNIT DESIGN: (Circle your response to each item.)

6. The instructions on how to use the unit are clear to me. N/A 1 2 3 4 5

*Comments:*

7. The unit objectives are clear to me. N/A 1 2 3 4 5

*Comments:*

8. The unit activities stimulated my learning. N/A 1 2 3 4 5  
*Comments:*

9. The use of images is essential in the unit. N/A 1 2 3 4 5  
*Comments:*

10. The activities in this unit gave me sufficient practice and feedback. N/A 1 2 3 4 5  
*Comments:*

11. The final assignment in this unit is fair. N/A 1 2 3 4 5  
*Comments:*

12. The difficulty level of this unit is appropriate. N/A 1 2 3 4 5  
*Comments:*

13. The individual lessons in this unit follow a logical sequence. N/A 1 2 3 4 5  
*Comments:*

14. The length of this unit is appropriate. N/A 1 2 3 4 5  
*Comments:*

**C. SELF-PACED DELIVERY:** (Circle your response to each item.)

15. This self-paced tutorial is a good way for me to learn this content. N/A 1 2 3 4 5  
*Comments:*

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

**D. UNIT RESULTS:** (Circle your response to each item.)

16. I accomplished the objectives of this course. N/A 1 2 3 4 5  
*Comments:*

17. I will be able to use what I learned in this course. N/A 1 2 3 4 5  
*Comments:*

18. How would you improve this course? (Check all that apply.)

- |  |  |
|--|--|
| <input type="checkbox"/> Provide better information before course. | <input type="checkbox"/> Clarify the course objectives.            |
| <input type="checkbox"/> Reduce content covered in course.         | <input type="checkbox"/> Increase content covered in course.       |
| <input type="checkbox"/> Update content covered in course.         | <input type="checkbox"/> Improve the practice items in the course. |
| <input type="checkbox"/> Make course activities more stimulating.  | <input type="checkbox"/> Improve course organization.              |

- Make the course less difficult.
- Make the course more difficult.
- Improve the final assignment in the course.

- Shorten the length of the course.
- Add more images to the course.

*Comments:*

## **A.7 USER EVALUATION DEBRIEFING QUESTIONS**

1. Did you enjoy the unit?
2. Do you think you have the ability to create a web page on your own after this unit?
3. Do you think being able to create a web page is an important skill for freshmen COE students to have?
4. Are there any parts of the units or of the instruction that need to be better explained or clarified?
5. What is least valuable about this unit?
6. What is most valuable about this unit?
7. What other improvements would you recommend in this course?

**A.8 CREATING A WEB PAGE WITH NETSCAPE COMPOSER  
FINAL ASSIGNMENT RUBRIC**

For each element, mark whether it is present or not.

<b>Element</b>	<b>Yes</b>	<b>No</b>
1. The web page has a title.		
2. There is at least one heading in the web page.		
3. There is one example of bold text.		
4. There is one example of italicized text.		
5. The web page has a list of at least three items.		
6. There is a horizontal line at the bottom of the page followed by "Authored by" and your name.		
7. There are two links to other web sites.		
8. The background color is not white OR there is an image for the background.		
9. The "Link", "Active Link", and "Followed Link" colors are three different colors		
10. There is one image on the web page.		
11. All of the files for the web page are stored in a folder with the user's name on the C drive.		

The user successfully completed \_\_\_/11 of the requirements for the final web page.

## **Appendix B – Needs Assessment Analysis Data**

Appendix B contains all of the data gathered during the needs assessment analysis.

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2. Expert Questionnaire Data Summary.....	58
3. User A Observation Log.....	59
4. User B Observation Log.....	62
5. User Questionnaire Data Summary.....	64
6. Recommended Revisions.....	65



## B.1 OBSERVATION LOG - EXPERT EVALUATION

**Unit:** Creating a Web Page

**Reviewer:** Dr. Jane Howland

**Date:** 2/28/02

**Reviewed by:** Sarah LaVaute and Brice Jewell

SCREEN	COMMENTS & SUGGESTIONS	ACTIONS TAKEN
Before Intro	<p>Spend some time explaining what a web site is. Talk about what the Internet is, how files get on the web, include a diagram of how web sites and the Internet work, and how search engines work.</p> <p>Briefly talk about file sizes and load times - small and large files and fast and slow connections and how they relate to load times.</p> <p>Give some examples of slow/fast loading pages and good and bad web design.</p>	<p>A second part should be added to the first lesson along with the discussion of HTML. This new section could address what a web site is, how the Internet works, search engines, etc.</p> <p>Load times should also be mentioned. This will probably best be illustrated by creating some slow and fast loading pages to use as examples. Examples of good and bad web design might also be created.</p>
Lesson 1: Intro to HTML	<p>In the HEAD tag description, change 2nd sentence to say it "contains the title tag" rather than "displays to the viewer." Also include other tags, such as meta keywords and description - relate to how search engines work.</p> <p>In the HREF tag, the wording about the link that leads to another page is misleading. Rewrite and consider including a full example of an HREF tag.</p> <p>Really likes the HTML code example of a web page and then the screen shot of the same page.</p>	<p>The HEAD tag description will be corrected.</p> <p>The HREF tag example will be created and the wording will be changed so that it is more understandable.</p>
Lesson 2, Part 1	<p>Good explanation of the file structure. The "manila folder" analogy really helps put the technical info into a real world example that the users should be able to understand.</p>	
Lesson 2, Part 2	<p>Need more white space between the image/text/image sequence. Either place more line breaks in between, increase the font size or both.</p> <p>In the Save HTML file sequence, make sure that the student sees the .html extension on the end of the file. It is really important that they understand that a web file must have that extension.</p>	<p>Her screen resolution was set really high. It was probably 1600x1200, and the page did look cramped, but it looks fine at 800x600 or 1024x768.</p> <p>The student will not see the .html extension because HTML Files is listed in the Save as type box below the file name. If the student included the .html extension, the file would be smith.html.html.</p>
Lesson 2, Part 3	<p>Dr. Howland was asked about two different procedures for inserting elements: using the Composer menus or using the toolbar shortcut buttons. She thought that both formats should continue to be included in the instruction because some users may prefer to use one way and some the other way. She doesn't think it is confusing or too cluttered.</p>	<p>The instruction will remain as is; both procedures will be included.</p>
Lesson 2, Part 4	<p>The screen shots were very good and easy to understand. They do a nice job of illustrating the procedure step by step.</p>	
Lesson 2, Part 5	<p>No comments.</p>	

Lesson 2, Part 6	<p>In defining relative links, use the wording "to link to pages in a folder within your site." In the last sentence of the second paragraph, the student would need to know that he/she would have to actually name the file page2.html.</p> <p>When adding a link in the Character Properties illustration and then choosing to link to another file within the site, is the full path to the file displayed in the window? It is important that the user understand the file/path structure to other files.</p>	The wording suggested for the relative link will be used. No other changes will be made. The other suggestions aren't necessary for this basic introduction.
Lesson 2, Part 7	<p>In the last paragraph in the overview that talks about bad web design, it would be useful to link out to examples of good and bad design. It may be a good idea to include a little more information about bad web design in this paragraph too.</p> <p>In the note about adding pictures as background images, it is okay to insert pictures as long as they are appropriate to be used for backgrounds. Provide information about contrast.</p> <p>Dr. Howland was asked about the format of creating <i>Notes</i> sections in italics that provide additional information beyond the specific objectives for that section. Question posed: Is the format a good way to present this? The format is fine as long as it is consistently presented this way throughout the unit and as long as italics are not used for other pieces of information that are not "a step further" type of information.</p>	<p>Examples of good and bad web design will be included in the external links section of Blackboard. Some of those sites will also be included in this section.</p> <p>More information will be provided for users wanting to use images as background.</p> <p>Additional lessons that are more advanced may be created at the end rather than using Notes sections if there is enough content to justify it.</p>
Lesson 2, Part 8	<p>Consider a better definition for GIF files. Perhaps mention that GIF files are usually use for images with a few colors or block of colors.</p> <p>Typo on the JPG description in the second sentence.</p> <p>Consider including examples of images of the three different types.</p> <p>In the section on downloading an image from the web, explain how to do this on a Macintosh. Procedures for Mac users need to be included throughout the unit, not just this part. The Mac instructions could be included in parentheses behind the PC instructions.</p> <p>The link to the last image in the unit is broken.</p>	<p>The GIF definition will not change.</p> <p>The typo will be corrected.</p> <p>Examples of the image types will be included.</p> <p>Incorporating Mac user instructions throughout the entire unit should be considered.</p> <p>The image link will be fixed.</p>
Lesson 2, Part 9	Great section.	
Final Assignment	<p>In the criterion for including a list, specify how many items need to be in the list.</p> <p>In the criterion for changing the background, be careful not to encourage bad web design. Consider providing more guidance in this criterion.</p> <p>The assessment tool of this final assignment should be a simple rubric. It should be a yes/no checklist; either the page has the requirement or it doesn't.</p>	<p>The number of items for the list will be added.</p> <p>The rubric developed is a yes/no checklist.</p>

<p>General Comments</p>	<p>The navigation buttons in Blackboard disappear when the learning module for the Netscape Composer unit is started. One can still navigate through the lesson still, but the Blackboard buttons disappear. Consider a different structure for the unit. Talk to the Blackboard System Administrator to learn about the file structure of Blackboard. (Presently using Netscape Navigator 4.7 on a Mac.)</p> <p>Teach users how to FTP to their Bengal web space. This is a skill they will need to know whether they upload their pages here at MU or later in life to another server. Teach both a PC program like WS_FTP and a Mac program like Fetch.</p> <p>Consider creating a section for going "a step further." This would allow for more advanced users to continue to broaden their knowledge past the basics of this lesson.</p> <p>Create a resources page with external links to example of good and bad web design, examples of good teacher web sites, and other resources for learning more about creating web pages. This will cater to those users that are looking to learn more information.</p>	<p>This was originally believed to be a Netscape problem, but Netscape 4.7 on the PC displays the unit correctly. It is now believed that the problem is with the Mac platform somehow.</p> <p>A part describing the FTP process will be added, but probably at the end. This may be part of the more advanced lessons being considered.</p> <p>The step further section has already been addressed.</p> <p>The external links page has already been addressed.</p>
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## B.2 EXPERT QUESTIONNAIRE DATA SUMMARY

The expert was asked to respond to each statement using the following scale:

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

Questions	Expert
1. The information in the unit is accurate.	3
2. The information in the unit is current.	5
3. The information in this unit is sufficient in scope.	4
4. Information in this unit is provided in a precise and orderly fashion.	5
5. This unit provides learners with a clear knowledge of the unit objectives.	5
6. The instructional interactions in this unit are appropriate for the unit objectives.	5
7. The instructional design of this unit is based on sound learning theory and principles.	5
8. Instructions given throughout the unit are clear.	4
9. The feedback in this unit is clear.	N/A
10. The pace of this unit is appropriate.	N/A
11. The difficulty level of this unit is appropriate.	5
12. All objectives in this unit are weighted appropriately throughout the unit.	N/A
13. The activities in this unit gave the user sufficient practice and feedback.	4
14. The content is relevant to the users' present role as a College of Education pre-service teacher and as a future professional teacher.	5
15. The content is related to the context in which the student will apply these skills (student, future teacher).	4
16. The unit provides for interactivity, and is not formatted in solely procedural instruction.	5
17. Remedial resources offered are of significant quality (current, accurate, designed well) and service the needs of various learning styles and needs.	2
18. The screen design of this unit follows sound principles.	3
19. Color is used appropriately within the unit.	5
20. The screen displays are easy to understand.	5
21. The use of images is appropriate throughout the unit.	5
22. This unit is accessible by most users.	4
23. This unit's navigation operates flawlessly.	2

### B.3 OBSERVATION LOG - USER A

**Unit:** Creating a Web Page with Netscape Composer

**Reviewer:** User A

**Date:** 3/4/02

**Reviewed by:** Brice Jewell

SCREEN	COMMENTS & SUGGESTIONS	ACTIONS TAKEN
Instructions	These were pretty self-explanatory (she has a lot of experience with Blackboard). Clicked the back arrow to return to main menu.	
Lesson 1: Intro to HTML	<p>What are tags? Tags are mentioned before they are really explained. Might be talking about them too early.</p> <p>She skipped over the HTML code example page and went straight on to the descriptions. She was confused about the descriptions and suggested that the HTML code under the "See for Yourself" section be placed higher. It is, but she didn't notice it.</p> <p>Tag descriptions are good.</p> <p>She used the back arrow to return to the main menu.</p>	<p>The user was advised to keep reading, and she figured it out.</p> <p>Nothing will be changed.</p>
Lesson 2, Part 1	<p>Went back and forth between the desktop and the tutorial during the creating the folder section. She read one line then went to the desktop and went back and forth.</p> <p>Lost the first new folder because she clicked off of it when trying to rename it because she was going back and forth to the tutorial. She created a second folder.</p>	There is no easy solution to the problem of going back and forth.
Lesson 2, Part 2	<p>She opened a new Navigator window in order to launch Composer.</p> <p>Liked the first screen shot. Said it was good for people not familiar with how programs work.</p> <p>She did this unit perfectly, but made the comment that it was a little hard going back and forth between Composer and the tutorial.</p>	
Lesson 2, Part 3	<p>She read through all of the steps about formatting text first. She didn't practice changing any of the settings. She just did the final step of each one. She says this section is too basic for people that have experience with Word, which is why she didn't practice. She says she has been, "...doing this forever in Word."</p> <p>She liked the Note section. She was about to ask the question that is answered by the section because she was having difficulty changing the settings back.</p> <p>Really liked the screenshots because they helped her double-check to make sure she was in the right spot.</p>	The section on formatting text will not be changed or removed. It is important to keep this section in for users that are not as skilled.

Lesson 2, Part 4	<p>She did the actions here 1 step at a time rather than reading ahead and doing more than one at a time. She checked her work against the screen shots.</p> <p>The use of the list shortcut buttons was good.</p> <p>She scrolled to look at the picture for step 4 under bulleted list before starting to type.</p> <p>She used the menu method for creating the numbered list and the button for creating the bulleted list. She did this whole lesson without any hesitation.</p>	
Lesson 2, Part 5	<p>In Step 1, she asked if the bottom of the page is where the Cursor currently is.</p>	<p>A small note will be added that the line is supposed to go where the cursor is.</p>
Lesson 2, Part 6	<p>Suggested that hyperlinks also be described as the blue underlined words in a web page.</p> <p>Thought the descriptions of absolute and relative were very clear.</p> <p>For the Visit the College of Education link, she didn't include the http in the URL, so the link didn't work.</p> <p>She has started using the shortcut buttons to add elements rather than the menus.</p>	<p>It will be mentioned that hyperlinks are generally blue, underlined words on a web page.</p> <p>Nothing else will be changed.</p>
Lesson 2, Part 7	<p>Thought the link descriptions were good. Using the colors in the descriptions helps the user relate to what they are used to seeing in a web page.</p> <p>The Page Colors and Properties menu didn't open to the Colors and Backgrounds tab so she was confused. She said she would have noticed if she had looked more closely.</p> <p>The Active link color was red on the computer she used, but it is blue in the screen shot.</p>	<p>The instructions will be revised to instruct users on how to get to the Page Colors and Properties tab if it doesn't open automatically.</p> <p>The screen shot of the link colors will also be changed so that the active link color is red. This seems to be the most common default color.</p>
Lesson 2, Part 8	<p>Good explanation of digitizing, and said the scanner example was really important.</p> <p>On the image formats, she asked which format to use. Said it would be helpful if there were specific situations like use .jpg for photos.</p> <p>Said explaining how to save images in IE was good to include.</p> <p>She went back and forth with the save as box open between steps during the save image process.</p> <p>She suggested that in the instruction it tell the user to make sure the image was a GIF.</p> <p>When choosing the image to open, she checked the files of type pull-down menu.</p> <p>When trying to move on to the next section, she clicked the contents button instead of the arrow by accident.</p>	<p>No hard and fast rules can really be offered on which format to use. However, another example will be given to help users understand the differences better. Images will also be added.</p>

Lesson 2, Part 9	<p>She forgot to save the file from the last part, so she had to save the file before previewing it.</p> <p>The link didn't work because she forgot to add the http to the URL from part 6.</p> <p>When she checked spelling, "bulleted" came up misspelled, but she ignored it.</p>	While Composer finds this word misspelled, MS Word spells it with only one "t". This is not a significant problem.
Final Assignment	<p>She completed all 11 criteria on the final assignment rubric correctly.</p> <p>When she read the criterion about the background color with the option of using an image, she thought that was asking to insert an image in the page in addition to the background color.</p> <p>She used the MU logo page for her image. She didn't need to reread any directions, but she had to go back to find the URL for the images page.</p> <p>She had difficulty on the link properties window because instead of highlighting text first to turn into a link, she just clicked the link button to create the link. She was typing the URL in the top field, which is where the linked text is supposed to be.</p>	
Debriefing Questions		Tips for searching for clip art on the Internet will be included or direct links will be provided in the part on inserting images.

## B.4 OBSERVATION LOG – USER B

**Unit:** Creating a Web Page with Netscape Composer

**Reviewer:** User B

**Date:** 3/4/02

**Reviewed by:** Sarah LaVaute

SCREEN	COMMENTS & SUGGESTIONS	ACTIONS TAKEN
Lesson 1: Intro to HTML	<p>User wanted clarification and more explanation given about the difference between, and use of opening and closing tags.</p> <p>User stated that a screenshot detailing the Head vs. Title Tags would be helpful, embedded in the text about these two tags.</p> <p>The user requested a verbal explanation about the HREF tag information. After a verbal explanation, he understood the text. He then suggested that an more thorough example be used.</p>	The HREF tag paragraph will be better explained.
Lesson 2, Part 2	<p>User stated that he liked the objectives being stated at the beginning of each mini-lesson within the lessons. He stated that it helped orientate him to the overall goal of the lesson.</p> <p>Asked if it was necessary to explain and illustrate how to save the file.</p>	
Lesson 2, Part 3	<p>Need to choose a more specific color that “medium shade of green” in the instructions for changing the color of the text.</p> <p>Suggested that in the directions for adding elements that the toolbar button method be explained first because it is easier.</p> <p>Before step 4, and after the heading size, suggested the directions read “After setting your heading size, de-select the text. Then press the Enter key once.”</p>	<p>The toolbar shortcut button will be mentioned first in the directions.</p> <p>The “de-selection of text” instructions will be included.</p>
Lesson 2, Part 4	<p>Again suggested that the toolbar shortcut method be explained first in the directions before the menu method.</p> <p>Made a positive comment about the screen shots matching the user’s practice page. He stated that this was a key characteristic of quality, stressed to students involved in a class he had previously taken, in which the students were required to take an on-line tutorial.</p> <p>In step 5, in which the user is supposed to create a bulleted list, the user suggested that the instructions for doing this be restated rather than asking the user to refer to the directions given for the numbered list, above.</p>	Nothing will be changed. It is hoped that users will think to go back and reread the instructions if they are unsure how to complete step 5.



Lesson 2, Part 6	<p>User suggested that the words “absolute” and “relative” be bolded in the overview section to make them stand out more to the reader.</p> <p>Suggested that in step 4 in which the URL for the COE page is given that the COE text in that sentence should actually be linked to the COE site.</p>	<p>This change is not necessary. Italicizing the words is sufficient.</p>
Lesson 2, Part 7	<p>Typo found in first paragraph in overview ...left to right “ant” top to bottom...</p> <p>In step 2, on link colors, user suggested that there is a need to address what to do if default colors are different than those in the screen shots. This question arose because the default colors were changed on that computer by prior to the evaluation taking place.</p> <p>User suggested to check to see if white is the designated default background color, because the screen was referencing gray as the background default color.</p>	<p>Typo will be corrected and changed to “and”.</p> <p>Users will be given instructions to change the default colors if they are not correct.</p> <p>White is the default background color.</p>
Lesson 2, Part 9	<p>Check the spelling of bulleted.</p>	<p>Composer spells it with 2 T’s but MS Word’s spell check spells it with only 1.</p>
Final Assignment	<p>He completed all 11 criteria on the final assignment rubric correctly.</p>	
Debriefing Questions		

## B.5 USER QUESTIONNAIRE DATA SUMMARY

Users were asked to respond to each statement using the following scale:

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

Questions	User A	User B
1. I was informed about the overall goal of this unit.	5	5
2. I was well informed about the specific objectives of this unit.	5	5
3. The language of this unit is clear and easy to understand.	5	5
4. This unit lived up to my expectations.	5	4
5. The content is relevant to my interests as an education major and as a future teacher.	5	5
6. The instructions on how to use the unit are clear to me.	5	5
7. The unit objectives are clear to me.	5	4
8. The unit activities stimulated my learning.	4	5
9. The use of images is essential in the unit.	5	5
10. The activities in this unit gave me sufficient practice and feedback.	4	5
11. The final assignment in this unit is fair.	5	5
12. The difficulty level of this unit is appropriate.	5	5
13. The individual lessons in this unit follow a logical sequence.	5	5
14. The length of this unit is appropriate.	5	5
15. I accomplished the objectives of this course.	5	5
16. I will be able to use what I learned in this course.	5	5
17. This self-paced tutorial is a good way for me to learn this content.	4	5

## B.6 RECOMMENDED REVISIONS

The formative evaluation for this instruction on creating a web page with Netscape Composer yielded very valuable information including a few major recommendations for revision and several minor recommendations. The major revisions include creating an all inclusive resources page, expanding the introduction to include new material, and creating additional sections for more advanced information.

First, an all-inclusive resources page should include examples or descriptions of good and bad web design, fast and slow loading pages, example of good education web sites, information about how to FTP, and sites for further information on web development. The expert evaluator stressed the importance for students to understand good web design and development concepts, especially at this beginning stage. The examples of good/bad web design and fast/slow loading pages would be valuable to students because a majority will have little/no previous knowledge of what those terms and factors mean in relation to web design. The examples of good education web sites will help students relate the skill they are learning to their future profession, and the sites for further information will be a good reference for those students wishing to learn more than what is presented in the unit. The interspersing of this information throughout the unit would tie in the importance of these issues to the creation of teacher web pages, while providing a scaffold as the students complete these lessons.

Second, the introduction section should be expanded to include information on how web sites work, how different web documents relate, and how search engines work. The SME evaluator teaches courses on web development and suggested that these topics are very important to teach students new to web design and development. These topics are introduced in previous units in this course, however, the re-introduction of this material will provide a scaffold for students who need to review their prior knowledge. Once students understand the structure and underpinnings of web sites and the Internet, they can grasp the web development concepts more quickly. This is also a good area to include further information about why web development skills are important for COE students and how educators can use web sites. Without a section to convey this information, students' motivation levels to learn this skill may be low.

Finally, an additional section should be added at the end of the unit to include more advanced technical skill information, such as how to upload a web site to the Bengal server using FTP and Telnet. This information is crucial in order to actually publish a web site, but it is more advanced than skills offered by the present course content. Students intent on learning more about web page development will require this knowledge, and because the uploading procedures at UMC are specific, it would be important to include the instructions for doing so in this unit. Although students are not asked to FTP their final web page, those who wish to go beyond the requirement will have ready access to the procedural information necessary. This scaffold provides for a sort of "extension activity".

There are several minor revisions to be made to the instructional materials. There are only a few typing mistakes to be corrected. The HTML tag descriptions need to be better explained. The expert and users complained about the wording on the HREF tag and the HEAD tag examples. Within the tag descriptions, reference should also be made to the sample code because the users were confused until they noticed the sample code.

The instructions for inserting elements should be rearranged so that the user is presented with using the toolbar buttons to insert elements before the pull-down menu

method is described. The toolbar button method is the easier of the two, so it should be presented first. The page layout may also need to be modified so that the images of the buttons and menus do not fall within the paragraph, but rather out to the side.

The wording used in several areas needs to be revised. The information about relative and absolute links and web graphic formats needs to be improved (details in the observation logs). Both users asked several clarifying questions about the different link types and using the link properties window to create links. Users also requested clarification and examples of the different web graphic formats. Therefore, better descriptions and examples of the different graphic formats need to be included. The instructions on changing page colors and properties will also be clarified. In user testing, it was found that the correct menu did not always open to the front when an action was performed. Additional instructions need to be included in case of that situation.

The screen shots for the default link colors will also need to be changed. The active link color should be red instead of blue by default. Additionally, more information needs to be included about good and bad web design principles. This subject alone is lengthy, so the additional information should be kept to a minimum, however the expert and the users all suggested more information be included on web design principles. This information can also be linked to the examples of web design that will be included in the new resources page.

The final assignment needs to be modified so that the web page the user develops is something he or she might actually be proud of, and able to use in the future. While the expert felt the assignment was appropriate, both users felt the assignment was too simple. Both users completed the final assignment with few questions in about five minutes, which might indicate that it was not challenging enough. This cannot be fully determined until more users with low levels of experience in web development can evaluate the instruction materials.

There were also some recommendations drawn from the data analysis that will not be implemented. Instructions for Macintosh users will not be incorporated at this time. Incorporating them would mean recreating nearly all of the screen shots on the Macintosh operating system. This would greatly increase download time and the length of the pages. Further user testing will help decide if textual instructions at the least will need to be added. The expert suggested that more white space be used between screen shots and the directions and a bigger font be used. This will not be implemented because the expert's screen resolution was set to 1600x1200, which is why the instruction seemed so "cramped". However, in 800x600 screen resolution, there is usually only enough room to display a single screen shot and the instructions above and below it. Therefore, the white space and font size will not be changed as most users will be using 800x600 or 1024x768 screen resolution. Instructions will be included, however, that this unit should be viewed at a screen resolution of at least 800x600 and is best viewed at 1024x768.

## Appendix C – Formative Evaluation Tools

Appendix C contains all of the tools used in formative evaluation process. The pretest and posttest, which are not included in the appendix, can be found in the instructional materials at <http://courseinfo.coe.missouri.edu>. The format for the One-to-One Data and Interpretation chart was taken from Smith and Ragan (1999). The format for the attitude questionnaire was taken from instructional materials published by Dr. Thomas Reeves of the University of Georgia at <http://it.coe.uga.edu/~treeves/edit8350/tools.html>.

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## **C.1 USER EVALUATION OPENING**

### **ED101: HTML and NETSCAPE COMPOSER SKILLS USER EVALUATION OPENING**

Thanks again \_\_\_\_\_ for agreeing to help us evaluate this instruction. This unit will be part of a course called ED101 that will be offered to freshmen COE pre-service teachers. ED101 will be offered completely online. The main goal of this course is to teach pre-service UMC-COE students basic computing skills. Some of the skills covered in the course will be performing Internet searches, sending email, using Word, using Excel, using PowerPoint, and creating a web page with Netscape Composer. As you know, the unit we will be looking at today is on creating a web page. The lesson should take about an hour to an hour and a half to complete.

This Netscape Composer unit is still being developed. We really need your help to make these materials as good as possible. You can help us the most by telling us exactly what you think of the materials. If you think it is boring, too easy, too difficult, very helpful, or anything else, we would really like you to tell us. You aren't being graded on how well you do in this exercise and we won't be upset if you don't like something, so you don't have to worry about anything. Please just work through the lesson and complete the exercises as best you can. It would also really help us if you could speak aloud as you go through the lesson. Just say what you are thinking as you go through, and feel free to ask questions or make suggestions at any time. This will really help us because we have looked at this so many times that it is hard for us to guess what it would be like to use it for the first time. So by speaking aloud as you work, you will be giving us a lot of information about what it is like to do the lesson.

Because ED101 will be online, you will use Blackboard to follow this tutorial. You will begin the unit by completing a little on-line survey that will tell us more about your web page knowledge and skills prior to this learning experience. Once you have completed this "Pre-Assessment" survey, you will be reading a set of instructions about navigating through the lesson on Blackboard. Next, you will read a basic introduction to web pages and HTML. Then, you will begin working through the Netscape Composer tutorial and learn how to make a web page. After the tutorial, we would like you to create a simple web page of your own following a few guidelines. After it is all finished, we would like you to complete a post-assessment quiz, and then fill out a brief questionnaire about the unit. That's it! Do you have any questions for me before we begin?

## C.2 ONE-TO-ONE DATA AND INTERPRETATION CHART

**User:**

**Evaluated by:**

**Date:**

*When objectives are not referenced, information is being provided about a specific content area within the instructional materials that is not related to an objective.*

<b>One-to-One Data and Interpretation</b>			
<i>Objective</i>	<i>Data Source</i>	<i>Information Gained</i>	<i>Revision Decision</i>

### C.3 USER EVALUATION QUESTIONNAIRE

Unit Name: \_\_\_\_\_  
Training Location: \_\_\_\_\_  
Participant Name (optional): \_\_\_\_\_  
Date: \_\_\_\_\_

Year in school: Fresh   Soph   Jr   Sr   Gr

#### INSTRUCTIONS:

Please circle your response to the items. Rate aspects of the course on a 1 to 5 scale, where 1 equals "strongly disagree" and 5 equals "strongly agree." The number 1 represents the lowest and most negative impression on the scale, 3 represents an adequate impression, and 5 represents the highest and most positive impression. Choose N/A if the item is not appropriate or not applicable to this course. Your feedback is sincerely appreciated. Thank you.

#### A. UNIT CONTENT: (Circle your response to each item.)

NA=Not Applicable 1=Strongly Disagree 2=Disagree 3=Neither Agree/Nor Disagree 4=Agree  
5=Strongly Agree

1. I was informed about the overall goal of this unit. N/A 1 2 3 4  
5

*Comments:*

2. I was well informed about the specific objectives N/A 1 2 3 4  
5

of this unit.

*Comments:*

3. The language of instructional materials within this N/A 1 2 3 4  
5

unit is clear and easy to understand.

*Comments:*

4. This unit lived up to my expectations. N/A 1 2 3 4  
5

*Comments:*

5. The content is relevant to my interests as an education N/A 1 2 3 4  
5

major and as a future teacher.

*Comments:*

#### B. UNIT DESIGN: (Circle your response to each item.)



6. The instructions on how to use the unit are clear to me. N/A 1 2 3 4  
5

*Comments:*

7. The unit objectives are clear to me. N/A 1 2 3 4  
5

*Comments:*

8. The unit activities stimulated my learning. N/A 1 2 3 4  
5

*Comments:*

9. The use of images is essential in the unit. N/A 1 2 3 4  
5

*Comments:*

10. The activities in this unit gave me sufficient N/A 1 2 3 4  
5

practice and feedback.

*Comments:*

11. The final assignment in this unit is fair. N/A 1 2 3 4  
5

*Comments:*

12. The difficulty level of this unit is appropriate. N/A 1 2 3 4  
5

*Comments:*

13. The individual lessons in this unit follow a logical N/A 1 2 3 4  
5

sequence.

*Comments:*

14. The length of this unit is appropriate. N/A 1 2 3 4  
5

*Comments:*

**C. SELF-PACED DELIVERY:** (Circle your response to each item.)

15. This self-paced tutorial is a good way for me to learn this N/A 1 2 3 4  
5

content.

*Comments:*

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

**D. UNIT RESULTS:** (Circle your response to each item.)

16. I accomplished the objectives of this course. N/A 1 2 3 4  
5

*Comments:*

17. I will be able to use what I learned in this course. N/A 1 2 3 4  
5

*Comments:*

18. How would you improve this course? (Check all that apply.)

Provide better information before course.

Clarify the course objectives.

Reduce content covered in course.

Increase content covered in course

Improve the practice items in the course.

Make course activities more stimulating.

Improve course organization.

Make the course less difficult.

Shorten the length of the course.

Make the course more difficult

Add more images to the course.

Improve the final quiz in the course.

Improve the final assignment in the course.

*Comments:*

## C. 4 FINAL ASSIGNMENT SCORING GUIDE

### Visual and Textual Elements

### Points Earned

1. The web page has a title. (1)

0 1

2. There is at least one heading in the web page. (1)

0 1

3. There is one example of bold text. (1)

0 1

4. There is one example of italicized text. (1)

0 1

5. The web page has a numbered OR bulleted list of at least three items. (1)

0 1

6. There is a horizontal line at the bottom of the page followed by “Authored by” and your name. (3)

0 1 2 3

7. There are two absolute links to educational web sites. (2)

0 1 2

8. There are at minimum 5 relative “empty” links. (5)

0 1 2 3 4 5

9. The background color is not white OR there is an image for the background. (1)

0 1

10. There is one educationally appropriate image included in the web page. (1)

0 1

11. All of the files for the web page are stored in a folder with the user's name on the C drive. (1)

**0            1**

### Content Elements

12. Teacher name is stated in the web site. (1)

**0            1**

13. Identification: Classroom room number, school name, and school location (City, State) is included. (3)

**0            1            2            3**

14. Grade Level and/or Subject Area and/or Specialization are stated in the Web Site index page. (1)

**0            1**

15. A rationale statement explaining the resources found within absolute and relative links in the body of your web page. (7)

**0    1    2    3    4    5    6    7**

You have successfully earned \_\_\_ / 29 points.

### **C.5 USER EVALUATION DEBRIEFING QUESTIONS**

1. Did you enjoy the unit?
2. Do you think you have the ability to create a web page on your own after this unit?
3. Do you think being able to create a web page is an important skill for freshmen COE students to have?
4. Are there any parts of the units or of the instruction that need to be better explained or clarified?
5. What is least valuable about this unit?
6. What is most valuable about this unit?
7. What other improvements would you recommend in this course?

## Appendix D – Formative Evaluation Data

Appendix D contains all of the data collected during the formative evaluation.

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## D.1 USER A DATA AND INTERPRETATION CHART

**User:** User A

**Conducted by:** Sarah LaVaute

**Date:** May 3, 2002

*When objectives are not referenced, information is being provided about a specific content area within the instructional materials that is not related to an objective.*

<b>One-to-One Data and Interpretation</b>			
<b><i>Objective</i></b>	<b><i>Data Source</i></b>	<b><i>Information Gained</i></b>	<b><i>Revision Decision</i></b>
	Pretest/Posttest	The subject struggled with the ordering questions, numbers 6 and 15. She did not fully complete either question in the pretest. She also indicated that she was a “visual learner.”	These questions may be too difficult to answer without visual aids. They should either be revised or removed.
	“Instructions”	Arrows used clearly note the use of navigation tools.	N/A
	“Instructions”	The graphic which shows the exact same navigation options, as shown above in the page is confusing. These are images – not able to use for navigation.	It will be noted that the graphic image of the navigation choices are an example to reference for further understanding.
Lesson Objective 1	“Excursion” Lesson 1: Intro to HTML	User stated that she liked this option for further information.	N/A
Lesson Objective 1	Lesson 1: Intro to HTML	Examples made sense. Subject stated that she is a visual learner, so the pictures really helped make it clear, “how it worked”.	N/A
Lesson Objective 2	NC: Part 1 Preparing to Create A Web Page	Subject completed content related to this objective section with no comments and/or problems.	None
Lesson Objective 11	“Excursion” NC: Part 1 Preparing to Create A Web Page	Subject stated that she enjoyed reviewing the resources offered about the teacher web pages.	N/A
	NC: Part 1 Preparing to Create A Web Page	Subject had problems navigating.	None – this was attributed to her novice level of tech knowledge.
Lesson Objective 3	NC: Part 2 Create, Name,	Subject had problems accessing the “C” drive	None - this was attributed to her

	and Save an HTML Document	and titling the folder correctly. Subject attempted to create a folder three times, the third time was successful.	novice level of tech knowledge, and the fact that she was rushing through the lesson. Upon slowing down the pace, and rereading the content, the user was successful.
Lesson Objective 4	NC: Part 3 Adding and Formatting Text	Subject identified a discrepancy in the appearance of the screen shot versus her actual NC page document. The text size within the screen shot was larger than the actual NC page, which she was creating. The images did not look the same, although the text settings were the same.	Present screen shots in this section, relating to the text elements, will be removed and replaced with screen shots which are an accurate visual of what the user's page should look like.
Lesson Objective 5	NC: Part 4 Creating Numbered and Bulleted Lists	Subject did not complete "Step 3" correctly, by spacing as instructed.	None – Subject had not followed instructions. Subject went back and self-corrected herself successfully after re-reading the instructions.
Lesson Objective 6	NC: Part 5 Adding Horizontal Lines to Your Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 7	NC: Part 6 Adding Links to Your Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 8	NC: Part 7 Changing the Background, Text, and Link Colors	Learner stated everything was very clear and easy to follow.	N/A
Lesson Objective 9	NC: Part 8 Inserting an Image into a Web Page	Subject skipped through the first steps, reading each step as she went. She then went back and completed the steps slowly and accurately.	N/A
Lesson	NC: Part 9	Subject completed this	None



Objective 10	Previewing Your Web Page	section with no comments and/or problems.	
Lesson Objective 11	NC: Part 10 Designing Your Own Web Page	Subject did not look through all links because of time constraints. Subject stated that she liked number of resources offered and that it was not overwhelming. Subject stated that the number of resources available gave students choices that would result in a greater variance in their final web pages design and content choices.	None – The time limitation issue will not be a problem during regular student use.
Lesson Objective 11	“Creating a Web Page” Assessment	Subject completed this section with no comments and/or problems.	None

## D.2 USER B DATA AND INTERPRETAION CHART

**User:** User B

**Evaluated by:** Brice Jewell

**Date:** May 4, 2002

*When objectives are not referenced, information is being provided about a specific content area within the instructional materials that is not related to an objective.*

<b>One-to-One Data and Interpretation</b>			
<i>Objective</i>	<i>Data Source</i>	<i>Information Gained</i>	<i>Revision Decision</i>
	Pretest/Posttest	Subject said question 6 was too complicated. Subject did not complete it in the pretest and was clearly frustrated with it on the posttest. During the posttest, he said he could complete the task if he was using the program, but he couldn't remember the names that were used.	Further testing will be needed to determine if an adjustment should be made. This question may be simplified or removed.
	Pretest	Like question 6 mentioned above, the subject said question 15 was too complicated.	Further testing is needed to determine if a change should be made. This user may just be impatient.
	"Instructions"	Subject said he frequently has to use Mac computers in the Reflector.	Keyboard instructions will be added for Mac users, but screen shots on the Macintosh operating system will not be added because the download time and length of each page would be greatly increased.
Lesson Objective 1	"Excursion" Lesson 1: Intro to HTML	User stated that the example of the badly designed site was really good. He suggested we explain why one is bad and why one is good.	This is simply an introductory activity designed to gain attention. No further explanations will be added at this point in the instruction.
Lesson Objective 1	Lesson 1: Intro to HTML	Subject quickly went through this section. He spent time comparing the image of the web page to	None

		the HTML code. He skipped the Excursion at the bottom of the page.	
Lesson Objective 2	NC: Part 1 Preparing to Create A Web Page	Subject quickly completed the tasks in this lesson with no difficulty.	
Lesson Objective 11	“Excursion” NC: Part 2 Create, Name, and Save an HTML Document.	Subject read the Excursion, but did not follow the links. Subject stated that he knew how web pages worked.	Subject seems to be skipping and not spending much time on the Excursion sections. Is there a way to encourage the students to look at them more carefully?
Lesson Objective 3	NC: Part 2 Create, Name, and Save an HTML Document	Subject noted a typing mistake in item 6.	It should read, “After you save the file.”
Lesson Objective 4	NC: Part 3 Adding and Formatting Text	After completing this section, the user asked the evaluator if there were any sources that discussed appropriate fonts for the web.	This was a very useful comment. Information will be added to address this point either as text within the document or through external links.
Lesson Objective 5	NC: Part 4 Creating Numbered and Bulleted Lists	The subject scrolled to the bottom of the page to see the final screen shot and began trying to create it without reading the instructions above. When he became confused trying to switch from a numbered to bulleted list, he returned to the top to read the instructions. He commented that the screen shots were very good and helpful in completing the lessons.	None. This user is simply more advanced and trying to quickly complete the lesson.
Lesson Objective 6	NC: Part 5 Adding Horizontal Lines to Your Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 7	NC: Part 6 Adding Links to Your Page	Subject did not read the Excursion section. Subject completed this section with	None

		no comments and/or problems.	
Lesson Objective 8	NC: Part 7 Changing the Background, Text, and Link Colors	Subject asked why some menu headings and buttons are bolded in the instructions but Enter in “Press Enter” is not.	The instruction will be reviewed and all instances of keystrokes will be bolded for consistency. If other keystrokes and mouse-clicks are highlighted in bold, then changes like making “Enter” bold should be made as well.
Lesson Objective 11	“Excursion” NC: Part 7 Changing the Background, Text, and Link Colors	Subject spent several minutes using the color picker. He said that was a very useful web site. He also said the examples on background colors were useful. He said he thinks there are a lot of people that don’t realize how important color choices are.	None
Lesson Objective 9	NC: Part 8 Inserting an Image into a Web Page	Subject completed this section with no problems.	None
Lesson Objective 10	NC: Part 9 Previewing Your Web Page	Subject completed this section with no comments and/or problems.	None
Lesson Objective 11	“Excursion” NC: Part 9 Previewing Your Web Page	Subject thought the pictures of page layouts were very good. He suggested creating a picture or template like that for a teacher web site.	None – The aspects of this unit that deal with web design and content are supposed to be gained through discovery learning. It is hoped that students will create their own mental picture of what a teacher site should look like.
Lesson Objective 11	NC: Part 10 Designing Your Own Web Page	Subject did read the headings in each section and some of the descriptions, but did not look at any sites until he got to the teacher web site	None

		examples. He said the more examples of good teacher sites that could be provided, the better it would be for students.	
Lesson Objective 11	NC: Part 11 Additional Resources	Subject quickly skimmed the list of resources. Subject noted that in previous links to web sites, the pages opened in new windows, but the links on this page opened within Blackboard.	The source code of this page will be changed so that all links open in new windows.
	NC: Part 12 Putting Your Site Online	Subject said this information was very useful and requested a hard copy of it so that he could upload his web pages in the future.	None
Lesson Objective 11	“Creating a Web Page” Assessment	Subject used <a href="#">Mrs. Ross’ First Grade Class</a> web site as an example for the final assignment. He used center alignment and spaces to create the table of contents. He completed the assignment with no problems.	The table of contents on Mrs. Ross’ First Grade Class web site used tables for layout purposes. A unit on creating tables in Netscape Composer should be added to the instruction.
	“After instruction”	After completing the instructional materials, the subject asked if it would be possible to use videos of the tasks instead of screen shots.	This option will be explored. Video will probably not be used entirely, but it could be used to supplement the instruction. The primary concern with using video is the length of the download time needed to view a video clip.

### D.3 PRETEST AND POSTTEST RESULTS

Incorrect Answers are indicated in red.

Question	Correct Answer	USER A		USER B	
		Pretest	Posttest	Pretest	Posttest
1	4	1	4	4	4
2	2	4	2	4	2
3	C,A,B,D	D,A,B,C	C,A,B,D	D,A,B,C	C,A,B,D
4	1	1	1	1,4	1
5	4	2	2	4*	3*
6	4,5,2,1,7,3,6	-,4,5,-,1,2,3,	7,4,3,1,2,6,5	-,3,5,-,1,2,4	4,5,7,1,2,3,6
7	2	4	4	4	2
8	All	2,4	All	All	All
9	1,3	1,2	1,3	1,2,3	1,3
10	3	2	3	3	3
11	1	3	1	4	1
12	4	1	4	1	4
13	white	white	white	white	white
14	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
15	6,1,4,5,2,3	-----	6,1,4,5,2,2	6,2,4,5,1,3	6,1,4,5,2,3
16	C,A,B	C,B,A	A,B,C	A,C,B	C,A,B

*\*The correct answer was marked incorrectly in the quiz key. 3 is actually the correct answer to this question.*

#### D.4 QUESTIONNAIRE DATA SUMMARY

Users were asked to respond to each statement using the following scale:

NA=Not applicable 1=Strongly disagree 2=Disagree 3=Neither agree/nor disagree 4=Agree 5=Strongly agree

Questions	User A	User B
1. I was informed about the overall goal of this unit.	5	5
2. I was well informed about the specific objectives of this unit.	5	5
3. The language of this unit is clear and easy to understand.	4	5
4. This unit lived up to my expectations.	5	4
5. The content is relevant to my interests as an education major and as a future teacher.	5	5
6. The instructions on how to use the unit are clear to me.	3	4
7. The unit objectives are clear to me.	4	5
8. The unit activities stimulated my learning.	4	4
9. The use of images is essential in the unit.	5	5
10. The activities in this unit gave me sufficient practice and feedback.	4	4
11. The final assignment in this unit is fair.	5	5
12. The difficulty level of this unit is appropriate.	5	3
13. The individual lessons in this unit follow a logical sequence.	5	5
14. The length of this unit is appropriate.	4	4
15. This self-paced tutorial is a good way for me to learn this content.	5	5
16. I accomplished the objectives of this course.	4	5
17. I will be able to use what I learned in this course.	5	4