

Distance Learning with Blackboard

Instructional System Design

Yanfei Ma, William McCrary, Lisa Royse, and Dinara Saparova

May 4, 2010

Name	Roles	Contributions
Yanfei Ma	Needs Assessment Section Leader	<ul style="list-style-type: none">• Responsible for Needs Assessment section, including organizing and distributing surveys, recruiting survey participants, and compiling survey results• Reviewed weekly group updates• Proofread final report• Coordinated facilities for group meetings• Valuable contributor to all sections• Main contributor of course content
William McCrary	Learner Analysis, Contextual Analysis, and Types of Instruction Section Leader	<ul style="list-style-type: none">• Responsible for Learner Experience and Types of Instruction, Learner and Contextual Analysis sections, including drafts and final versions• Created flowcharts for prerequisite analysis• Created initial online surveys for needs assessment• Recruited participants for surveys• Voiced video instruction for sections of project Web site• Edited and transcoded video instruction files, uploaded to online video hosting site• Valuable contributor to all sections• Main contributor of course content
Lisa Royse	Project Manager, Evaluation Section Leader	<ul style="list-style-type: none">• Responsible for Formative and Summative Evaluation sections, including creating overall evaluation plan and instruments• Created and maintained project schedule and individual expectations• Provided group updates to the instructor and group• Designed and created Web site using XHTML and inserted content into Web site• Drafted and finalized final report• Valuable contributor to all sections• Main contributor of course content
Dinara Saparova	Task Analysis Section Leader	<ul style="list-style-type: none">• Responsible for Task Analysis section, including development of procedural analysis for Class Preparation and Navigation lessons• Recruited participants for needs assessment surveys• Coordinated facilities for group meetings• Learned how to use Camtasia software• Reviewed weekly group updates• Proofread final report• Valuable contributor to all sections• Main contributor of course content

Table of Contents

<u>DESIRED RESULTS</u>	4
Introduction.....	4
Goals of Instruction.....	4
Learning Objectives	4
Needs Assessment.....	5
Task Analysis.....	6
<i>Topic Analysis</i>	6
<i>Procedural Analysis</i>	6
<i>Prerequisite Analysis</i>	9
<u>EVIDENCE OF ACCEPTABLE RESULTS</u>	13
Formative Evaluation.....	13
<i>Instrumentation</i>	13
Summative Evaluation	13
<i>Instrumentation</i>	14
<i>Assessment of Learning</i>	14
<u>LEARNING INSTRUCTION</u>	14
Learner and Contextual Analysis	14
<i>Orienting Context</i>	14
<i>Instructional Context</i>	15
<i>Transfer Context</i>	15
Types of Instruction	16
Materials for Training Program	17
Implementation Schedule.....	18
<u>REFERENCES</u>	18

<u>APPENDIX A: NEEDS ASSESSMENT MATERIALS</u>	19
Needs Assessment Plan.....	19
Needs Assessment Surveys.....	21
<i>Expert Student Survey</i>	21
<i>Expert Instructor Survey</i>	22
<i>Graduate Student Survey</i>	22
Analysis of Survey Results.....	24
<u>APPENDIX B: TASK ANALYSIS MATERIALS</u>	26
Topic Analysis.....	26
<i>Content structure</i>	26
<u>APPENDIX C: EVALUATION FORMS AND INSTRUMENTS</u>	29
Formative Evaluation Materials.....	29
<i>Interview Protocol</i>	29
<i>Instructor Questionnaire</i>	30
Summative Evaluation Materials.....	31
<i>Student Questionnaire</i>	31

DESIRED RESULTS

Introduction

The Web site described in this document is designed to deliver instruction to MU Direct graduate students that have recently enrolled in an online Blackboard course. Blackboard technology is used by more than 5,000 institutions (Blackboard.com) and is a virtual learning platform that allows professors to post information such as announcements, course content, calendars, assessments, grades, etc. The application also allows students within a course to communicate with one another via discussion boards, group pages, and e-mail.

The Web site provides demonstrations for specific tasks that Blackboard users need to know when getting started, navigating, communicating, and managing files. The purposes of the demonstrations are to familiarize and guide users with the Blackboard platform to build confidence and demonstrate how utilizing specific Blackboard tools and features will contribute to a student's success in their Blackboard course(s). This is especially important because most (more than 2/3) of graduate students are international students who begin their experience with Blackboard for the first time.

Goals of Instruction

To prepare new MU Direct graduate students with requisite knowledge for taking online Blackboard courses, the Web site will accomplish the following goals:

- Goal 1: Students will setup their computer system and prepare customizable features to get started with Blackboard.
- Goal 2: Students will practice navigating to the most salient Blackboard features.
- Goal 3: Students will employ Blackboard's communication tools to interact with classmates and the instructor.
- Goal 4: Students will experiment with Blackboard's file management features.

Learning Objectives

Students will achieve the instructional goals by accomplishing the following learning objectives:

Goal 1 Objectives:

- 1.1: After reading a technical requirements section, students will successfully verify that their computer meets Blackboard's technical requirements.
- 1.2: After viewing a demonstration, students will successfully navigate to and log into their Blackboard account.
- 1.3: After viewing a demonstration, students will successfully customize their Blackboard introductory layout.
- 1.4: After viewing a demonstration, students will successfully create a personal home page for a Blackboard course.

Goal 2 Objectives:

- 2.1: After viewing a demonstration, students will correctly navigate to the course information, announcements, and grades.
- 2.2: After viewing a demonstration, students will check their assignments and use the breadcrumb menu to navigate to previous pages.
- 2.3: After viewing a demonstration, students will correctly navigate to their group Web page.

Goal 3 Objectives:

- 3.1: After viewing a demonstration, students will accurately post and reply to a discussion board thread.
- 3.2: After viewing a demonstration, students will accurately find their classmates using the roster tool.
- 3.3: After viewing a demonstration, students will accurately send e-mails to a classmate or the instructor.

Goal 4 Objectives:

- 4.1: After viewing a demonstration, students will successfully navigate to the Digital Dropbox, upload a file, and send it to the instructor.
- 4.2: After viewing a demonstration, students will successfully upload a file to their group's file upload feature.

Needs Assessment

Using Allison Rossett's (1987) framework for training needs assessment, a systematic plan (see *Appendix A, Needs Assessment Plan*) was developed to help determine the training goals and corresponding learning objectives. The plan guided the process of seeking detailed information about optimals—how students can utilize specific Blackboard tools and features to contribute to their success in a Blackboard course—and feelings—to understand if students believe they can learn how to use Blackboard.

To identify optimals, two surveys were developed for two groups of Blackboard experts—students that use Blackboard to complete coursework and instructors that use Blackboard to deliver their courses. Surveys were developed and delivered via SurveyMonkey ([expert student survey](#), [expert instructor survey](#); also see *Appendix A, Needs Assessment Surveys*). In addition, all four project team members served as subject matter experts because all use Blackboard to complete coursework.

To understand if students believe they can learn how to use Blackboard (identify feelings), a third survey was created for any graduate student with little to no Blackboard experience ([graduate student survey](#); also see *Appendix A, Needs Assessment Surveys*). This survey shed light on graduate student's confidence levels about learning Blackboard and any doubts they have about Blackboard as a course delivery platform.

Results from the survey were compiled and analyzed. Analysis was used to develop the instructional goals and learning objectives previously listed (to see how the feedback aligns with

specific goals and learning objectives, see *Appendix A, Analysis of Survey Results*). The analysis was also used to guide the task analysis.

Task Analysis

A combination of topic, procedural, and prerequisite analyses were conducted during the task analysis. This involved a summary of every idea to be inserted into the final educational program. Every concept, rationale, and fact was clearly represented. Each task in the instructional Web site springs from a combination of factors in the task analysis.

Topic Analysis

During topic analysis, information was classified into five categories: facts, concepts, principles and rules, procedures, and interpersonal skills. The categories and resulting content structures were used to identify the appropriate instructional strategies. See *Appendix B, Topic Analysis* for the complete topic analysis.

Procedural Analysis

During procedural analysis, learning tasks were broken down into subtasks, revealing the skills and knowledge a user must acquire to successfully accomplish each goal. The step-by-step analysis for each goal is as follows:

Goal 1: Students will setup their computer system and prepare customizable features to get started with Blackboard.

- I. Verify that your computer meets Blackboard's technical requirements.
- II. Navigate to and log into your Blackboard account.
 1. Open your Web browser.
 2. Type "blackboard.missouri.edu" into the address bar.
 3. Type your Pawprint into the "username" box.
 4. Type your password into the "password" box.
 5. Click "Login" button.
 6. In the "My Courses" box, select the course you are enrolled in.
 7. Familiarize yourself with Blackboard by browsing through the following sections:
 - Announcements
 - Instructors
 - Requirements
 - Communication
 - Discussion Board
 - Tools
 - Grades
- III. Customize your Blackboard introductory layout.
 1. To modify the content of your home menu:
 - Click the "Modify Content" button in the right top corner of the page
 - Select buttons you would like to see on the home menu by putting checks in the appropriate boxes
 - Click the "Submit" button
 2. To modify layout of your home menu:

- Click the “Modify Layout” button in the right top corner of the page
 - Personalize page layout by deleting or moving the content items up/down, to the left/right column by clicking on the arrows
 - Personalize theme by selecting the theme you like
 - Click the “Submit” button
- IV. Create your personal home page for a course.
1. Click the “Tools” tab.
 2. Click the “Homepage” tab from the list of options available on the right.
 3. Provide home page information by filling out the following fields:
 - Type in your introduction
 - Type in your personal information
 4. Upload image:
 - Make sure you have a JPG file (your picture or image you want to upload, which is not a copyright violation) on your computer
 - Click the “Browse” button
 - Search your computer for an image
 - Click the “Open” button
 5. Provide links to your favorite Web sites (optional).
 6. Click the “Submit” button when you finish.
 7. See how your home page looks:
 - Click the “Communication” button
 - Click “Roster”
 - Search for your last name in the search box
 - When you find your name, click on it to see how your home page looks

Goal 2: Students will practice navigating to the most salient Blackboard features.

- I. Navigate to announcements, course information, and grades.
 1. Click the “Announcements” button.
 2. Sort information using the tab by:
 - Viewing today’s announcements
 - Viewing last week’s announcements
 - Viewing last month’s announcements
 - Viewing all announcements
 3. Click the “Course Information” button and check the following course information:
 - Syllabus
 - Course information
 - Calendar
 4. Click the “Grades” button and browse through the following options:
 - Due dates
 - Possible points
 - Comments from the instructor
 - Details about specific assignments
- II. Check assignments and use the breadcrumb menu to navigate to previous page.
 1. Click the “Requirements” button and browse through the course assignments located in folders.

2. Use the breadcrumb menu at the top:
 - Click sections back and forth
- III. Navigate to the group Web page.
 1. Click the “Communication” button and choose group page link.
 2. Find the group you are assigned to and go to your group’s page.
 3. Browse through the options that allow you to collaborate with your group:
 - Group discussion board
 - Collaboration
 - File exchange
 - Send e-mail
 - Group members

Goal 3: Students will employ Blackboard’s communication tools to interact with fellow classmates and the instructor.

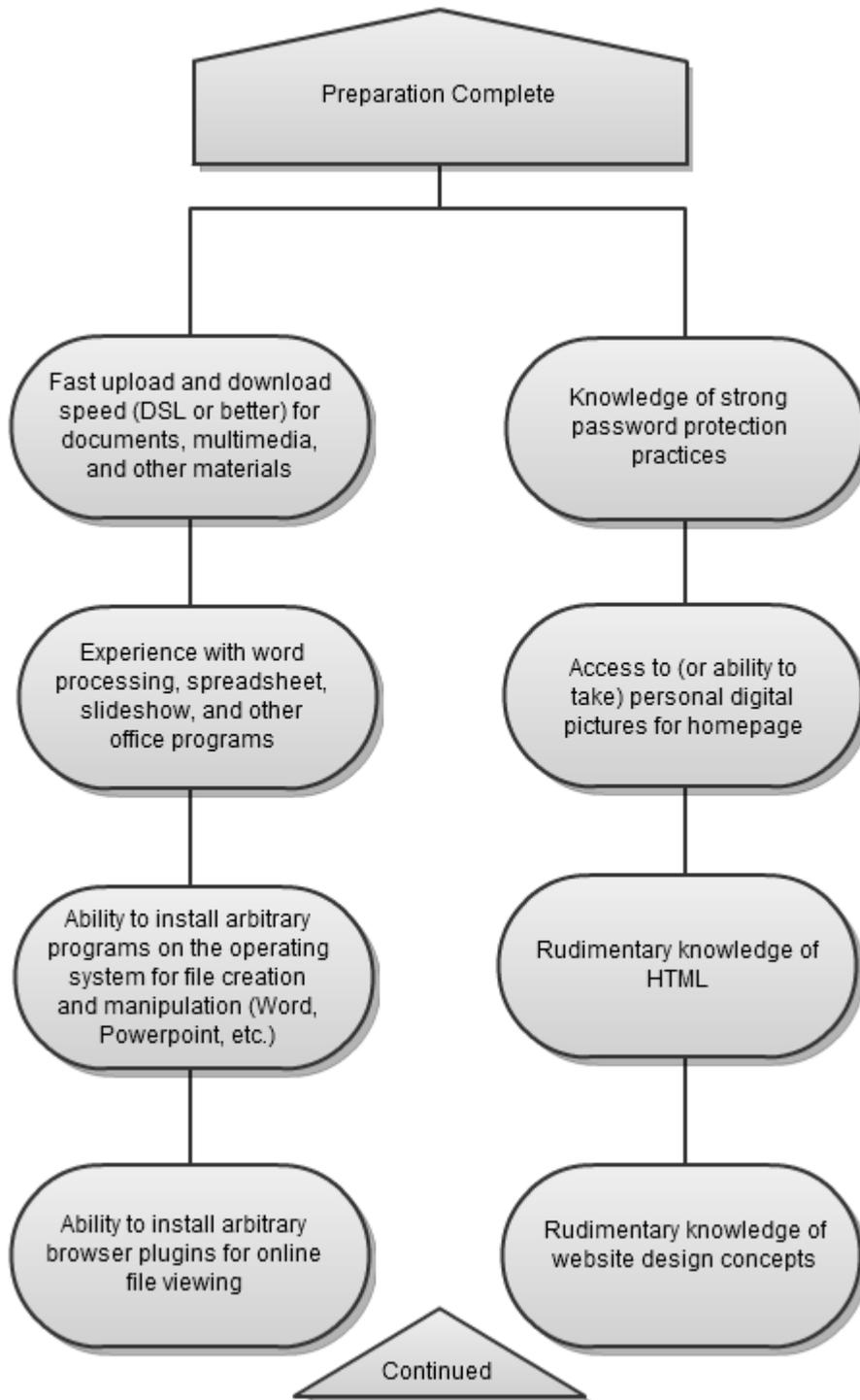
- I. Post and reply to a discussion board thread.
 1. Click the name of the forum you would like to post on.
 2. Click the name of the thread you would like to view.
 3. To make a new thread, do the following:
 - Click the “Thread” button
 - Type in the subject of your post
 - Type in your message
 - Save, modify, delete, or submit your post
 4. To reply to a thread:
 - Click on the thread
 - Write your reply and click the “Reply” button
 - When you have finished, click the “Submit” button
- II. Find your classmates using the roster feature.
 1. Click the “Communication” button.
 2. Choose “Roster” from the menu on the right.
 3. Search for your classmates using different options.
 4. Click on the classmate’s name and view the home page.
- III. Send e-mails to a classmate and the instructor.
 1. Click the “Communication” button.
 2. Click the “Send e-mail” button.
 3. Choose the addressees:
 - All users
 - All groups
 - All teaching assistant users
 - All student users
 - All instructor users
 - Select users
 - Select groups
 4. Type in the subject of your e-mail.
 5. Type in your message.
 6. Attach a file to your e-mail.
 7. When you have finished, click the “Submit” button.

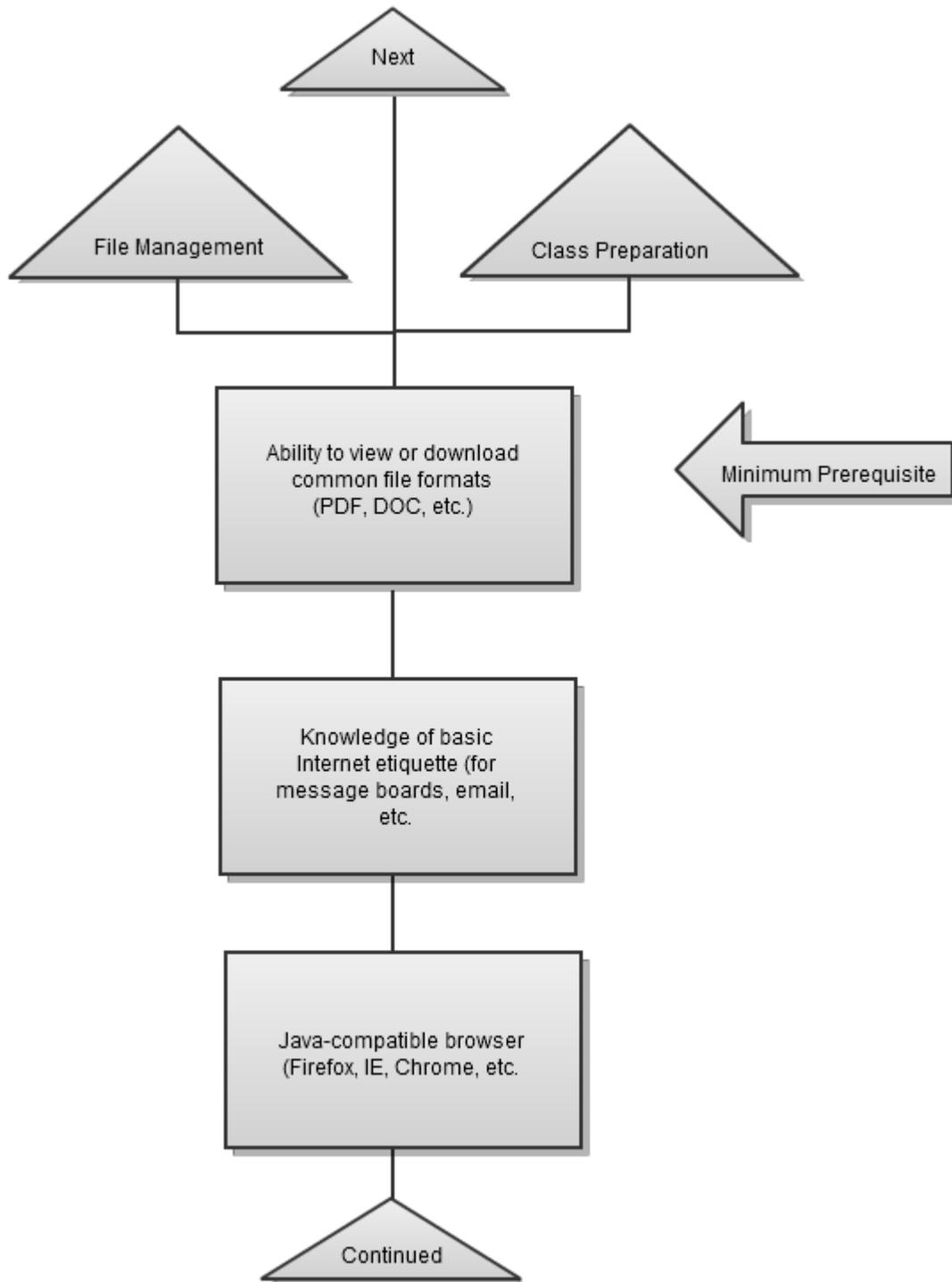
Goal 4: Students will experiment with Blackboard’s file management features.

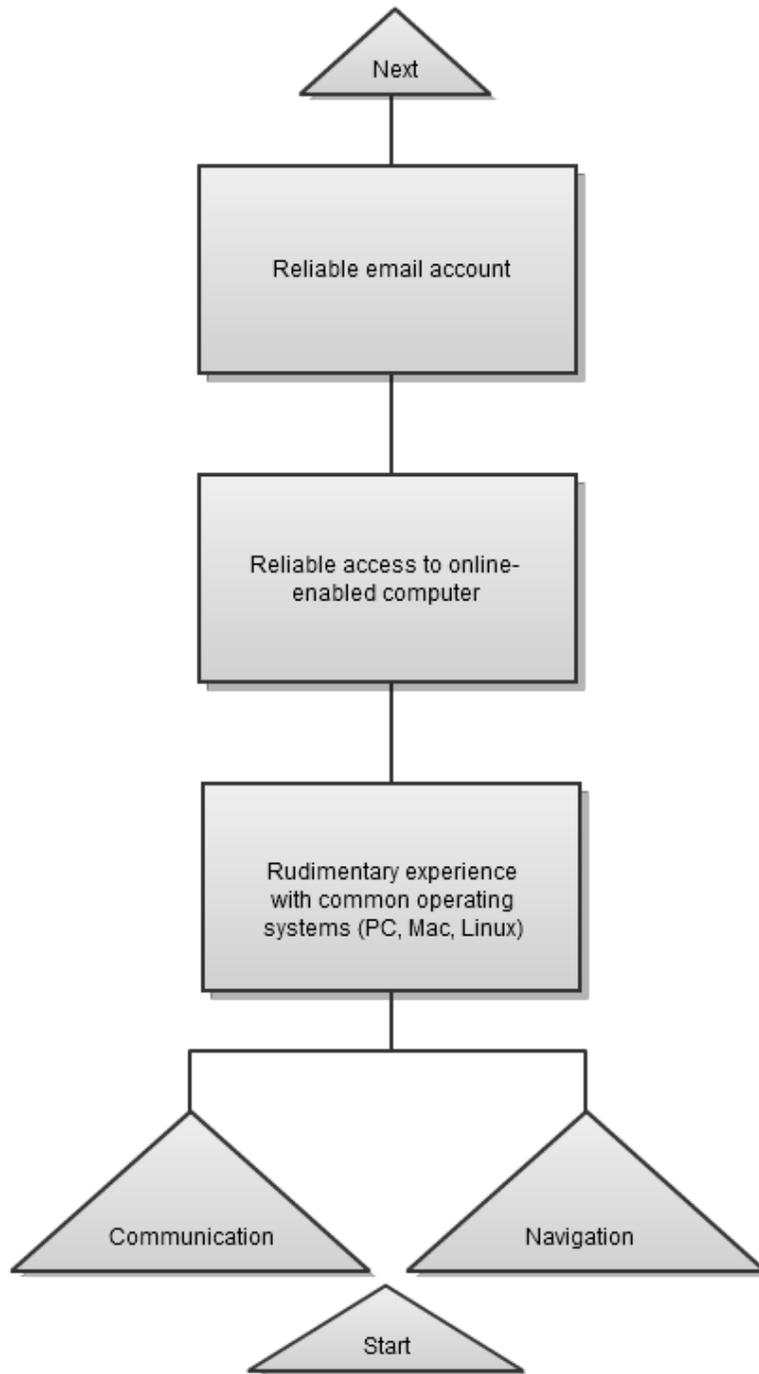
- I. Navigate to the Digital Dropbox, upload a file, and send it to the instructor.
 1. Click the “Tools” button.
 2. Click the “Digital Dropbox” button.
 3. Upload a new file:
 - Click “Add File”
 - Type in the name of the file
 - Click “Browse” to upload a file
 - Add comments to your file
 - Click the “Submit” button
 4. Send a file to the instructor:
 - Click “Send File”
 - Select an existing file or upload a new file
 - Type in the name of the file
 - Add comments to your file
 - Click “Submit”
- II. Upload a file to your group’s file upload feature.
 1. Go to “Communication” section.
 2. Click “Group Pages.”
 3. Select the name of the group you are in.
 4. Share a file:
 - Click “File Exchange”
 - Click “Add a File”
 - Add a name of the file
 - Browse for the file to share
 - Click “Submit”

Prerequisite Analysis

During prerequisite analysis, a diagram was created to determine what prior knowledge students would possess in addition to a hierarchy of the knowledge and skills students need to accomplish the instructional goals (see figure below; **NOTE:** to read the figure, start on page 12 and read up the hierarchy to pages 11 and 10.).







EVIDENCE OF ACCEPTABLE RESULTS

Formative Evaluation

The formative evaluation will be conducted after the release of a beta version (an almost final rough draft) of our instructional Web site. The purpose of the formative evaluation will be to improve the site's usability and effectiveness of introducing learners to Blackboard tools and features that contribute to their success in an online course. More specifically, the formative evaluation will seek answers to the following questions:

- To what extent can students successfully navigate and utilize the instructional Web site? Was content easy to locate and logically presented?
- How much time does each "lesson" take to complete? Is this acceptable?
- Do the Blackboard tools and features presented on the site seem appropriate to learners?
- Do the Blackboard tools and features presented on the site seem appropriate to instructors?
- What Blackboard tools and features presented on the site do learners identify as the most salient (what stands out as the most important/beneficial)?
- What Blackboard tools and features presented on the site do instructors identify as the most salient?
- What are the students' reactions after learning about each Blackboard tool and feature?
- What are the instructor's reactions after learning about each Blackboard tool and feature?
- What revisions in the program seem necessary (content, format, etc.)?
- Is the context appropriate?

Instrumentation

Data will be collected and analyzed to improve the content and functionality of the instructional Web site using the following two methods:

- *User interviews*: five to ten graduate students with little to no Blackboard experience, many of who are international students will be sent the beta version of the Web site, along with a specific task list of things to accomplish while testing the site. Then, the evaluation team will interview participants to gather information about their experience. Interviews will be conducted face-to-face, via video conference, or via telephone. All interviews will require an interviewer, an interview protocol that includes a script of interview questions (see *Appendix C, Formative Evaluation Materials, Interview Protocol*), and an audio recorder.
- *Questionnaire*: two to three Blackboard instructors will be sent a questionnaire (see *Appendix C, Formative Evaluation Materials, Questionnaire*). Questionnaire recipients will be identified and sent the beta version of the Web site to test before completing the questionnaire.

Summative Evaluation

A summative evaluation plan will be employed after the release of the final instructional Web site. The purpose of the summative evaluation is to measure the effectiveness of the instructional

Web site to increase its efficiency and effectiveness if we were to release any future upgrades or versions. More specifically, the summative evaluation will seek answers to the following questions:

- To what extent are students utilizing the tools and features they learned about on the site in their Blackboard course(s)?
- How are the tools and features taught on the site contributing to the success of students in Blackboard course(s)?
- What tools and features do students identify as the most salient?

Instrumentation

Questionnaires will be sent to students that have utilized the instructional Web site. Data will be collected and analyzed using a user questionnaire (see *Appendix C, Summative Evaluation Materials, Questionnaire*).

Assessment of Learning

In addition to the summative evaluation plan, learning will be assessed via the “Test Your Knowledge” sections at the end of each lesson. Students’ ability to successfully or unsuccessfully complete the tasks within the “Test Your Knowledge” sections will help determine the effectiveness of the training and point to areas in which additional training may be needed.

LEARNING INSTRUCTION

Learner and Contextual Analysis

When developing the course content, many contextual factors behind the student’s enrollment were considered. Using the development team’s subject-matter expertise, analyses were focused on the orienting, instructional, and transfer contexts and their corresponding learner factors (arising from the student), immediate environment factors (arising from the setting), and organizational factors (arising from the management and “behind the scenes” issues of the class).

Orienting Context

Within the orienting context, the introductory variables were considered, including the factors and expectations that students and instructors bring with them into the class and also the preparation factors that instructors must deal with.

- Learner Factors
 - Experience with Blackboard
 - Experience with online learning in general
 - Educational background (graduate or undergraduate)
 - Age
 - General computer/Internet knowledge
 - Personal schedule
 - Personal learning goals
- Immediate Environment Factors
 - Common computer and browser types

- Expected network speeds
- Organizational Factors
 - Reliability and uptime of instructional program
 - Reliable instructor communication/help (e-mail, etc.)

Instructional Context

Within the instructional context, variables surrounding the instructional program itself and the learner factors dealing with this were considered. These factors directly arise from the class, its environment, and its influences.

- Learner Factors
 - Immediate utility for current classes
 - Perception of instructor competence
 - Clean, understandable Web site design
 - Relevant, interesting exercises
 - Classmate communication preferences
- Immediate Environment Factors
 - Access to the University Web site and network
 - Quantity and quality of learning material
 - Availability of/access to working, updated components (Flash, Java, etc.)
 - Class size
 - Group vs. individual work
- Organizational factors
 - Both independent and instructor-led learning effectiveness
 - Instructor organization
 - Frequency of assignments
 - Accurate grading

Transfer Context

Within the transfer context, the development team considered the ongoing and future usefulness and relevance to students. Students should be able to refer back to the class, as well as transfer the knowledge gained to other endeavors.

- Learner Factors
 - Future educational utility
 - Future career utility
 - Ability to build on knowledge with further training, either independent or instructor-led
- Immediate Environment Factors
 - Relevance to other online learning systems
 - Relevance to other schools' educational programs
 - Future reference utility
- Organizational Factors
 - Ability to transfer instructional program between operating systems and browsers
 - Ability to update required browser applications and plugins (Flash, Java, etc.)
 - Ability to update educational program information to stay abreast of Blackboard updates

Types of Instruction

In this section, the tasks to be given to the students, the objectives for each task, and the rationale for those tasks are outlined. In addition, the general type of learning and the instructional strategy behind the task are listed.

As previously stated, there are four main goals of instruction as follows:

1. **Preparation**—Goal 1: Students will setup their computer system and prepare customizable features to get started with Blackboard.
2. **Navigation**—Goal 2: Students will practice navigating to the most salient Blackboard features.
3. **Communication**—Goal 3: Students will employ Blackboard's communication tools to interact with classmates and the instructor.
4. **File Management**—Goal 4: Students will experiment with Blackboard's file management features.

Mastery of each section is critical for student success.

	Behavioral Objectives for Learners	Type of Learning	Instructional Strategy	Rationale
1	After reading a “Technical Requirements” section, students will successfully verify that their computer meets Blackboard’s technical requirements.	Principle Fact	Rule-eg Demonstration Practice	User will have access to and the ability to use Blackboard.
2	After viewing a demonstration, students will successfully navigate to and log into their Blackboard account.	Procedure Fact	Demonstration Practice	User will be able to log into his or her account.
3	After viewing a demonstration, students will successfully customize their Blackboard introductory layout.	Procedure Fact	Demonstration Practice	User will be able to customize the layout of their Blackboard account.
4	After viewing a demonstration, students will successfully create a personal home page for a course.	Principles Procedure	Demonstration Practice	User will learn how to create a personalized home page.
5	After viewing a demonstration, students will correctly navigate to announcements, course information, and grades.	Procedure	Demonstration Practice	User will learn the basics of navigation and be able to find some of the more useful functions of Blackboard.

	Behavioral Objectives for Learners	Type of Learning	Instructional Strategy	Rationale
6	After viewing a demonstration, students will check their assignments and use the breadcrumb menu to navigate to previous page.	Principles Fact	Demonstration Practice	User will learn to use the breadcrumb menu to navigate the Blackboard site, and to keep track of general location within the site.
7	After viewing a demonstration, students will correctly navigate to their group Web page.	Principle	Demonstration Practice	User will learn specialized class navigation.
8	After viewing a demonstration, students will accurately post and reply to a discussion board thread.	Procedure	Demonstration Practice	User will learn how to post and reply to a discussion board thread.
9	After viewing a demonstration, students will accurately find their classmates using the roster feature.	Procedure	Demonstration Practice	User will learn how to find classmates enrolled in the same course.
10	After viewing a demonstration, students will accurately send e-mails to a classmate and the instructor.	Principle, procedure	Demonstration, Practice	User will learn to send group e-mails and e-mails to the instructor.
11	After viewing a demonstration, students will successfully navigate to the Digital Dropbox, upload a file, and send it to the instructor.	Principle Procedure	Demonstration Practice	User will learn to send files to the instructor.
12	After viewing a demonstration, students will successfully share a file with the group.	Procedure	Demonstration Practice	User will learn to share a file with the group.

Materials for Training Program

The content of the training program consists of a Web site made up of four lessons. Each lesson contains demonstrations and a “Test Your Knowledge” section. The site also includes a “Demos” page that links students directly to specific demonstrations throughout the course, a “Help” page, and a “Contact” page.

Web site URL: <http://web.missouri.edu/~roysel/9471/blackboard/index.html>

Implementation Schedule

The schedule for implementing the instructional Web site is as follows:

- **May 4, 2010:** Launch beta version of site and begin formative evaluation (see page 13 for formative evaluation details).
- **May 4–May 10:** Conduct formative evaluation.
- **May 11:** Compile results from formative evaluation.
- **May 12–June 1:** Revise the Web site based on analysis of formative evaluation data.
- **June 15:** Submit final Web site to MU Direct.
- **First week of Fall Semester 2010:** MU Direct will notify graduate students enrolling in a Blackboard course for the first time that they are required to take the *Distance Learning with Blackboard* course within the second week of the fall semester.
- **Third week of Fall Semester 2010:** Students that finish the course will be sent a questionnaire to measure the effectiveness of training. In addition, review of student performance in the “Test Your Knowledge” sections will be analyzed (see pages 13–14 for summative evaluation details). Data will then be analyzed and revisions will be made to better improve the Web site for the following semester.

Note that this process will take place each semester MU Direct requires students to take the *Distance Learning with Blackboard* course.

REFERENCES

Blackboard.com (n.d.). *Thousands of Peers Standing By*. Retrieved from <http://www.blackboard.com/Communities/Overview.aspx>.

Morrison, G.R., Ross, S., & Kemp, J. (2007). *Designing Effective Instruction*, 5th Edition. New York: John Wiley.

Rossett, A. (1987). *Training Needs Assessment*. Englewood Cliffs, NJ: Educational Technology Publications, Inc.

APPENDIX A: NEEDS ASSESSMENT MATERIALS

Needs Assessment Plan

Type of Information	What We Need to Know	Information Sources	Procedure to Gather Information
<p>Optimals Our purpose (our optimal) for our instructional Web site is to teach students about the specific Blackboard tools and features that will contribute to their success in a Blackboard course. Answers to the following “what we need to know” questions will provide the knowledge and skills students need to be successful in a Blackboard course.</p>	<p>What is Blackboard?</p> <hr/> <p>What are the specific skills students need to use Blackboard?</p> <hr/> <p>How can students best utilize Blackboard's tools and features?</p> <hr/> <p>What does Blackboard have to offer students?</p> <hr/> <p>What are advantages and disadvantages of Blackboard?</p> <hr/> <p>What tools and resources will students need to use Blackboard?</p>	<p>Blackboard experts—students that have used Blackboard and instructors that deliver their courses using Blackboard.</p>	<p>A questionnaire to students that have used Blackboard and a questionnaire to instructors that deliver their courses via Blackboard</p>
<p>Actuals Blackboard is new to the students taking our course, so the assumption is that they know nothing about it.</p>	<p>N/A</p>	<p>N/A</p>	<p>N/A</p>
<p>Feelings It is important to understand if students believe they can learn how to use Blackboard.</p>	<p>What are student's opinions about Blackboard? Do students have any doubts about Blackboard as a course delivery platform? Do students feel confident that they can learn how to use Blackboard?</p>	<p>Any graduate student that has little to no Blackboard experience</p>	<p>Questionnaire to graduate students that have little to know Blackboard experience.</p>

Type of Information	What We Need to Know	Information Sources	Procedure to Gather Information
<p>Causes We do not need to seek information regarding determining causes because our training is for a new technology, so no performance problems exist.</p>	N/A	N/A	N/A
<p>Solutions MU Direct prefers for students to take the instructional course before starting their first Blackboard coursework, so the course will have to be started and completed within one week of the course start date.</p>	N/A	MU Direct	N/A

Needs Assessment Surveys

To access the surveys and results in SurveyMonkey, go to <http://surveymonkey.com/> and use the following:

Username: mublackboard

Password: 2010bb

Expert Student Survey

Thank you for participating in this survey! We would like to ask you a few questions about the Blackboard platform. Please answer to the best of your ability.

1. How long have you been using the Blackboard system?
 - One semester
 - Two semesters
 - Three semesters
 - Longer than three semesters
2. How comfortable are you with using the Blackboard system in your classes?
 - Very comfortable
 - Somewhat comfortable
 - Not very comfortable
 - Not at all comfortable
3. Do your professors generally use the Blackboard system effectively? Why or why not?
4. Have you used other collaborative learning sites (such as Sakai)? If so, how does Blackboard measure up?
5. How effective, as a learning tool, do you believe Blackboard to be?
 - Very effective
 - Somewhat effective
 - Not very effective
 - Not at all effective
6. What is the most useful component of the Blackboard system? Why?
7. What is the least useful component of the Blackboard system? Why?
8. If you could change anything about the Blackboard system, what would it be?
9. Do you think an instructional Web site that explains and demonstrates the specific tools and features Blackboard provides would be useful for a new user? Why or why not?
10. Do you think an instructional Web site that explains and demonstrates the specific tools and features Blackboard provides could serve as an ongoing "help" resource for students just beginning coursework that uses the Blackboard platform? Why or why not?

Expert Instructor Survey

Thank you for participating in this survey! We would like to ask you a few questions about the Blackboard platform. Please answer to the best of your ability.

1. How long have you been using the Blackboard system?
 - One semester
 - Two semesters
 - Three semesters
 - Longer than three semesters
2. How comfortable are you with using the Blackboard system in your classes?
 - Very comfortable
 - Somewhat comfortable
 - Not very comfortable
 - Not at all comfortable
3. Do your students generally use the Blackboard system effectively? Why or why not?
4. Have you used other collaborative learning sites (such as Sakai)? If so, how does Blackboard measure up?
5. How effective, as a learning tool, do you believe Blackboard to be?
 - Very effective
 - Somewhat effective
 - Not very effective
 - Not at all effective
6. What is the most useful component of the Blackboard system? Why?
7. What is the least useful component of the Blackboard system? Why?
8. If you could change anything about the Blackboard system, what would it be?
9. Do you think an instructional Web site that explains and demonstrates the specific tools and features Blackboard provides would be useful for a new user? Why or why not?
10. Do you think an instructional Web site that explains and demonstrates the specific tools and features Blackboard provides could serve as an ongoing "help" resource for students just beginning coursework the users that Blackboard platform? Why or why not?

Graduate Student Survey

Thank you for participating in this survey! We would like to ask you a few questions about the Blackboard platform. Please answer to the best of your ability. Blackboard is a virtual learning platform that allows professors to post information such as announcements, course content, calendars, assessment, grades, etc. The application also allows students within a course to communicate with one another via discussion boards.

1. Have you ever used Blackboard?
 - Yes
 - No
2. Have you used any online collaborative tools other than Blackboard (e.g., Sakai)? If so, which ones?
3. How easy do you believe it is to learn Blackboard?
 - Very easy
 - Somewhat easy
 - Not very easy
 - Not at all easy
4. How useful do you think a Blackboard training course would be?
 - Very useful
 - Somewhat useful
 - Not very useful
 - Not at all useful
5. How useful do you think Blackboard would be in your classes?
 - Very useful
 - Somewhat useful
 - Not very useful
 - Not at all useful
6. Do you think that a system such as Blackboard would improve your course performance? Why or why not?
7. Would you be comfortable using a system such as Blackboard for an online-only class? Why or why not?
8. What do you think is the most important aspect of an online learning system?
9. What do you think is the least important aspect of an online learning system?

Analysis of Survey Results

The following lists relevant feedback from the needs assessment surveys that was used to help create our goals, learning objectives, and method of delivery.

Feedback from Expert Instructor Survey Total Started Survey: 6 Total Completed Survey: 6 (100%) Response Count: 6	
Most Useful Blackboard Components	Corresponding Learning Objectives
Grade center	Learning Objective 2.1
Discussion forum	Learning Objectives 3.1
E-mail feature	Learning Objective 3.3
Communication tools that allow for exchange of ideas and collaboration	Learning Objectives 3.1, 3.3
Least Useful Blackboard Components	Team Reaction
Calendar	These features are not included in the content because they are the least useful and least utilized by expert instructors.
Chat rooms	
Test feature	
Would you change anything about Blackboard?	Team Reaction
More flexible navigation on discussion board	Makes it clear that we need a lesson designated for navigation because it is somewhat complex.
Would you find instructional Web site useful?	Team Reaction
Yes, if it provides demonstrations—that's one thing the other instructional sites do not provide.	Include demonstrations as a main method of content delivery.
Feedback from Expert Student Survey Total Started Survey: 16 Total Completed Survey: 16 (100%) Response Count: 16	
Most Useful Blackboard Components	Corresponding Learning Objectives
Discussion board	Learning Objectives 3.1
Course materials/documents	Learning Objectives 2.1 and 2.2
Announcements	Learning Objective 2.1
Messages to fellow students	Learning Objective 3.3
Grading center	Learning Objective 2.1
Least Useful Blackboard Components	Team Reaction
Navigating through folders	Makes it clear that we need a lesson designated for navigation
Manipulating discussion board posts	Makes it clear we need to discuss how to (or not to) manipulate a discussion board post
Voicemail feature	These features are not included in the content because expert students responded that they are least useful and/or least utilized.
Search feature	
Calendar	

Would you change anything about Blackboard?	Team Reaction
Provide a user guide for first time users	We hope our site will serve as a user guide for first time users
Feedback from Graduate Student Survey Total Started Survey: 5 Total Completed Survey: 5 (100%) Response Count: 5	
It was clear from survey answers that graduate students believe they can learn how to use Blackboard.	Our site can dig right into to overviews and demonstrations.

APPENDIX B: TASK ANALYSIS MATERIALS

Topic Analysis

Facts: Blackboard is, at its core, a content management and communication system. There are many options that the instructor can add or remove, but there are also some basic things that every class would have, such as a discussion board, announcements, and file exchange function. The most important thing to note is that every major function in the Blackboard system facilitates communication and collaboration. This is the main purpose of the system.

Concepts: As stated previously, the main function of the Blackboard system is to facilitate collaboration. Ideally, groups of people will work on a single project and interact with other groups doing the same. There are many ways to stay in touch, both real-time (chat rooms) and asynchronously (discussion board, email). The structure of the program is familiar to just about anyone familiar with Web pages, with easy to understand tabs and buttons.

Principles: There are certain principles that students should keep in mind as they explore Blackboard. Since the message board will likely be one of the main avenues of communication for students, many principles to be taught will focus on this area. Things like posting, creating threads, and replying will all be covered.

Time management and scheduling are also important principles to cover. Keeping track of assignments, submitting on time, and scheduling online chats are crucial to every Blackboard user.

Procedure: This section outlines many of the specific procedures to be taught in the learning program. Many of these procedures may seem simple, but it is important to fully outline and explain each step.

Interpersonal Skills: Students should be encouraged to create a home page and keep in regular contact with students and instructors through email and chat. Once again, collaboration is the main function of Blackboard, and learning to work with a team within the restrictions of the Blackboard system is one of the most important parts of the learning program.

Content structure

Facts

- A. A learning management system/platform
- B. Blackboard
- C. Blackboard settings/options
 - announcements
 - instructors
 - course information
 - requirements/assignments
 - communication
 - discussion board
 - external links

- tools
- group page
- chat room
- file exchange
- message
- post
- reply
- thread
- function buttons (cancel, save, submit, home, help, log out)
- grades

Concepts

- A. Interpersonal communication (includes such facts as threads, posts, replies, discussion board, group page, file exchange, send e-mail, chat room)
- B. Menu tabs (includes such facts as announcements, instructors, course information, project examples, requirements, communication, discussion board, external links, tools, grades)
- C. Collaborative learning
- D. Collaborative project management
- E. Online learning
- F. On-the-go access
- G. External links
- H. Asynchronous group work
- I. Managing files

Principles

- A. the more threads (posts and replies) there are on the discussion board, the bigger number and variety of opinions is presented
- B. the more logically the menu tabs are organized, the easier it is to navigate the Blackboard account
- C. home pages are useful for identifying and getting along with classmates and facilitators
- D. IE or Firefox recommended
- E. the more you understand and follow the Requirements, the higher Grades you will get
- F. creating a new thread
- G. replying to threads
- H. replying to comments within a thread
- I. keeping track of assignments and schedules
- J. submitting assignments on time
- K. Checking in discussion forum on time
- L. Joining in case conference on time
- M. Asking questions about course and assignment on discussion board
- N. Submitting assignments on time

Procedure

- A. Log in and out
- B. Reading the announcement and getting the most updated information
- C. Reading the course information and syllabus

- D. Learning the requirements/assignments
- E. Creating a home page, and finding classmates' pages
- F. Navigate the interface (especially using the breadcrumb links up top)
- G. Find files and folders according to the requirements/assignments
- H. Communication:
 - communicate with classmates and with group members;
 - navigate and post on the discussion board;
 - contact instructors
- I. Using the digital drop box to submit assignments
- J. Checking grades
- K. Checking process with instructors
- L. Checking feedback/comment from instructors

Interpersonal Skills

- A. using decent language for posts (posting etiquette)
- B. ability to encourage conversation/new ideas/more posts/replies by asking the right questions, providing stimulating information, etc.
- C. timely responses/replies to posts
- D. asking the instructor questions about the course
- E. creating and maintaining personal home page (rationale)
- F. using blackboard messaging vs. e-mail

APPENDIX C: EVALUATION FORMS AND INSTRUMENTS

Formative Evaluation Materials

Interview Protocol

Formative evaluation Web site: <http://web.missouri.edu/~roysel/9471/blackboard/index.html>

Hello! My name is (), I am one of the developers of the *Distance Learning with Blackboard* Web site—the Web site designed to deliver instruction to MU Direct graduate students that have recently enrolled in an online Blackboard course. On behalf of my team, I would like to thank you for agreeing to evaluate the Web site. Before we begin, I will briefly go over what this evaluation session consists of, what will be expected of you, and what our goals are in conducting this study.

The main purpose of this evaluation is for us to understand whether the Web site is efficient and working for our target audience. Therefore, please, feel free to make any comments and suggestions as you go through the Web site. Please remember that we are testing the site, NOT you, so if you find errors or if you have any difficulties with the site, please let us know, we will use this information to improve the Web site.

Your answers will be held in strict confidence and used for further analysis in improving the Web site.

Do you have any questions? If not, let's get started.

Please complete the following task protocol before answering the questions below:

Learning Site Task Protocol

1. Access the Web site's home page.
 - a. How many students worked on the site?
 - b. What is the e-mail address used to contact the development team?
2. Go to the Lesson 1 page.
 - a. View the video for Lesson 1.3. How many columns are in the Blackboard home page layout?
 - b. Find the Test your Knowledge: Task 2 section. What should you do to create a home page?
3. Go to the Lesson 2 page.
 - a. View the video for Lesson 2.2. Is the breadcrumb menu made of text links, or images?
 - b. Find the Test your Knowledge: Task 1 section. How many names should you find? Where should you go to submit them?
4. Go to the Lesson 3 page.
 - a. View the video for Lesson 3.1. What is the "Set Flag" button for?
 - b. Find the Test your Knowledge: Task 2 section. What feature should you use to find a student? What should you do after that?

5. Go to the Lesson 4 page.
 - a. View the video for Lesson 4.2. What is the Digital Dropbox commonly used for?
 - b. Find the Test your Knowledge: Task 1 section. What should you upload and where?
6. Find the Demos page. How many demos are there in total?
7. Find the Contact page. Who can you contact, and in what ways?
8. Find the Help page. Click the third link. What is the fifth tip?

Questions

1. Please briefly introduce yourself.
2. Have you used Blackboard before using the site?
3. What is your overall impression about the look and feel of the Web site (such as design, layout, colors, and welcome, etc.)?
4. Do you think the learning site was sufficient to give a deeper understanding of Blackboard?
5. Did you have any difficulties navigating the Web site? If you have, what were they?
6. For the four lessons (Class Preparation, Navigation, Communication and File Management) what stood out the most for you in each section? What was least useful?
7. Would you recommend the site to others?

Thank you very much for your time!

Instructor Questionnaire

Formative evaluation Web site: <http://web.missouri.edu/~roysel/9471/blackboard/index.html>

Hello! Our names are Yanfei Ma, William McCrary, Lisa Royse, and Dinara Saparova, and we are the developers of the *Distance Learning with Blackboard* Web site—the Web site designed to deliver instruction to MU Direct graduate students that have recently enrolled in an online Blackboard course.

On behalf of our developers' team, we would like to thank you for helping us with the evaluation. We would like to make it clear that we are testing the site, NOT you. To help us understand your experience of using the site, please answer the following questions.

The main purpose of this evaluation is for us to understand whether the Web site is efficient and working for our target audience. Therefore, please, feel free to make any comments and suggestions as you go through the Web site. If you find errors or if you have any difficulties with the site, please let us know, we will use this information to improve the Web site.

Your answers will be held in strict confidence and used for further analysis in improving the Web site. Please complete the following task protocol before answering the questions below:

Learning Site Task Protocol

1. Access the Web site's home page.
 - a. How many students worked on the site?

- b. What is the e-mail address used to contact the development team?
2. Go to the Lesson 1 page.
 - a. View the video for Lesson 1.3. How many columns are in the Blackboard home page layout?
 - b. Find the Test your Knowledge: Task 2 section. What should you do to create a home page?
3. Go to the Lesson 2 page.
 - a. View the video for Lesson 2.2. Is the breadcrumb menu made of text links, or images?
 - b. Find the Test your Knowledge: Task 1 section. How many names should you find? Where should you go to submit them?
4. Go to the Lesson 3 page.
 - a. View the video for Lesson 3.1. What is the “Set Flag” button for?
 - b. Find the Test your Knowledge: Task 2 section. What feature should you use to find a student? What should you do after that?
5. Go to the Lesson 4 page.
 - a. View the video for Lesson 4.2. What is the Digital Dropbox commonly used for?
 - b. Find the Test your Knowledge: Task 1 section. What should you upload and where?
6. Find the Demos page. How many demos are there in total?
7. Find the Contact page. Who can you contact, and in what ways?
8. Find the Help page. Click the third link. What is the fifth tip?

Questions

1. What is your overall impression about the look and feel of the Web site (such as design, layout, colors, and welcome, etc.)?
2. Do you think the learning site was sufficient to give students a deeper understanding of Blackboard? Do you think that students would find the learning site is useful? Why or why not?
3. Did you have any difficulties navigating the Web site? If so, what were they?
4. For the four lessons (Class Preparation, Navigation, Communication and File Management) what stood out the most for you in this section? What was least useful?
5. Based on your experience with Blackboard, do you feel the Web site is missing anything?
6. Would you recommend the site to other instructors or your students?

Thank you very much for your time. If you have any questions about this project, please do not hesitate to contact any of the developers.

Summative Evaluation Materials

Student Questionnaire

Dear MU Direct Student,

You recently completed the *Distance Learning with Blackboard* online course that provided demonstrations for specific tasks that Blackboard users need to know when getting started, navigating, communicating, and managing files. The purposes of the demonstrations were to

familiarize and guide you with the Blackboard platform to build confidence and demonstrate how utilizing specific Blackboard tools and features will contribute to your success in a Blackboard course.

Please help us improve the *Distance Learning with Blackboard* course and complete the following questionnaire. The main purpose of this evaluation is for us to understand whether the Web site is efficient and working for our target audience. Therefore, please feel free to make any comments and suggestions. Please remember that we are evaluating the site, NOT you, so please answer honestly—we will use this information to improve the Web site.

1. What is your overall impression about the look and feel of the *Distance Learning with Blackboard* Web site (such as design, layout, colors, welcome, etc.)?
2. Do you think the learning site gave you a deeper understanding of Blackboard?
3. Did you have any difficulties navigating the Web site? If so, what were they?
4. For the four lessons (Class Preparation, Navigation, Communication and File Management) what stood out the most for you in each section? What was least useful?
5. Do you believe that the Web site built your confidence using Blackboard? Why or why not?
6. Do you believe the Web site will contribute to your success in your first Blackboard course? Why or why not?
7. Do you think you will use the Web site as a future Blackboard resource?
8. Would you recommend the site to others?

Thank you very much for your time!