



LON-CAPA Faculty Users Usability Evaluation Report

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I. Summary

This document describes usability testing results for the LON-CAPA Free Open-Source Distributed Learning Content Management and Assessment System. This evaluation was conducted May 18-23, 2006, at the MSU Usability & Accessibility Center (UAC). The application was evaluated in one-on-one usability sessions with 12 participants who were faculty members at an academic institution, including experienced and inexperienced LON-CAPA users.

Overall, participants, regardless of experience level, had difficulty understanding and choosing among menu items, and reading and using forms and tables. Experienced participants easily completed common tasks, but had trouble performing new or unfamiliar ones, finding the system's navigation confusing, and information missing where expected. Inexperienced participants similarly struggled with the system's menu, forms, and tables.

In general, participants had difficulty choosing items in the main menu to accomplish their tasks and understanding the labels of the menu items. They also found it difficult to read tables and locate table information. Participants struggled when using forms to make tables, charts, spreadsheets, or to locate specific information, most notably in selecting which options would create the charts and displays the participants wanted. Moreover, they described the labels and language used throughout the system as difficult to understand and not mirroring real-world actions or objects, such as a 'grade book'. Participants also struggled when accessing user assistance (help) features. They were either unable to locate or recognize help features, or if they did locate them, were unable to understand the information well enough to complete the task.

The most difficult tasks were (in order of severity¹):

1. Uploading score files (task 6; severity rating 4; # of participants successful: 0/12);
2. Changing the weight of a homework problem (task 3; severity rating 4; # of participants successful: 4/12; successful avg. time: 2:04 minutes);
3. Hiding a discussion post (task 1; severity rating: 3, # of participants successful: 7/12; successful avg. time: 1:11 minutes);
4. Checking student answer submissions (task 4; severity rating: 2; # of participants successful: 9/12; successful avg. time: 3:57 minutes); and
5. Checking homework scores (task 7; severity rating: 2; # of participants successful: 6/8; successful avg. time: 1:31 minutes).

The major issues that need to be addressed for users to fully benefit from the application's capabilities (followed by our recommendations) are:

- Participants were confused by key information and links appearing in two locations: on the top or in the main menu navigation. Participants also had trouble finding or returning to the main menu or specific pages after leaving them.
 - Create a single, consistent main navigation scheme that is accessible on all pages.
- Participants had difficulty understanding command and system features, such as PPRM (when they expected an edit function), or expecting a main grading area (instead of grading attached to a specific 'resource,' as in the PGRD function).

¹ Severity ratings are as follows: 1 = Low Priority, 2 = Medium Priority, 3 = High Priority, 4 = Very High Priority

- Rename/re-label command and system features to reflect the goals, expectations, and situations of real-world users.
- Participants had difficulty navigating the site because they did not find navigation labels intuitive or reflective of their goals.
 - Rename/Re-label the menu items to reflect the goals and context for real-world users.
- Participants had difficulty locating Help features.
 - Make links to user assistance (help) resources more apparent (do not necessarily rely on only a graphic as the main link) and have a consistent location, such as upper right corner of every page, where a user can access help.
- When participants did locate a Help feature, they found it difficult to find solutions for their specific problem. Participants also struggled to implement the directions provided.
 - Create a centralized user assistance (help) area that is searchable or browsable and addresses user goals rather than system features.
- Participants struggled when using forms to make tables, charts, spreadsheets, or to locate specific information, most notably in selecting options to create charts and displays.
 - Review all form-based features with the goal of enhancing the directness and clarity of the processes and the use of natural language for labeling.
- Participants had trouble navigating through tables, charts, spreadsheets and locating information due to both the layout and labeling of sections, columns, and rows.
 - Resolve the size and readability of all tables, along with more appropriately labeling the column and row headers to reflect the user’s natural language.
- Participants struggled to recognize which areas within tables, charts, etc. were clickable or editable.
 - Revise tables, charts, and other applicable areas so that the clickable areas are obvious.

Pre-test questionnaires and post-test conversations with participants underscored our concerns about LON-CAPA’s usability, by highlighting the significant training necessary for users to be successful.

- Five out of 6 experienced LON-CAPA participants indicated that they had participated in training. Of these, three specifically stated that their training concerned coding and the basics of using the system.
- Moreover, at least 2 inexperienced participants stated during the evaluation (without prompting) that they would require training to be successful.

For this reason, we recommend additional analysis be conducted to evaluate LON-CAPA’s usability and reliance on training against competitor products. See Conclusions and Next Steps for details.

II. Conclusion and Next Steps

This evaluation yielded much useful information on the usefulness and usability of the current LON-CAPA system interface for course coordinators both with experience and no experience. A web accessibility compliance evaluation will next be conducted on this web application.

Regarding issues of LON-CAPA's competitiveness, we recommend that research be done comparing LON-CAPA to other course management products': 1) requirements for training, 2) usability, and 3) features and capabilities.

Since this evaluation did not assess coding or (presumably) all the areas covered in basic training, we are unable to comment on those aspects of LON-CAPA's usability. However, to address the larger issues of usability and training, we recommend:

- Research on peer course management systems to assess LON-CAPA competitiveness with respect to training.
- User evaluations on several peer products to benchmark LON-CAPA's usability.

These issues touch on a larger area of concern, which is consideration of LON-CAPA as a course management application, as opposed to an advanced quiz and test tool. LON-CAPA is very quiz and testing-centric, which reflects its primary purpose, and is not necessarily bad. However, this likely puts it at a disadvantage against other full-featured, open source course and project management applications such as Moodle and Sakai, and third party systems such as Angel, Blackboard or WebCT. If LON-CAPA's future development plans include positioning it as a course management offering, we recommend:

- An analysis of LON-CAPA's features and capabilities versus competing open source products such as Moodle and Sakai, and third-party products such as Angel.

We also recommend that developers review the system's navigation and features through evaluations such as a card sort and a user task analysis prior to revising the application, to develop the optimal information architecture and label scheme from a user perspective.

III. Background

Introduction

This document describes usability testing results for the LON-CAPA course management system. This evaluation was conducted May 18-May 23, 2006, at the MSU Usability & Accessibility Center. The website was evaluated in one-on-one usability sessions with 12 participants who were faculty members, including experienced and inexperienced LON-CAPA users.

The value of conducting the tests was to identify usability issues with the current site using a systematic performance-based approach.

Objectives

This evaluation was designed to answer the following questions:

- What aspects of the LON-CAPA user interface are hard to understand?
- How difficult is it for experienced and inexperienced LON-CAPA users to accomplish typical tasks?
- How do LON-CAPA users identify and perceive existing user assistance (help) features while performing tasks?

Product

We tested the live version of the LON-CAPA course management system (<http://loncapa.msu.edu/>), using courses developed by the LON-CAPA Support Coordinator for the evaluation. See Attachment 8 for selected screen shots of the evaluation-course site.

Participant Profile

The LON-CAPA Support Coordinator recruited participants for the evaluation using contacts from a variety of faculty areas. The participants were current faculty members and were not offered compensation but were given free parking near the Usability & Accessibility Center.

There were a total of 12 participants. All participants were current faculty members of either Michigan State University or the University of Illinois at Urbana-Champaign. Six were classified as experienced LON-CAPA users (having used the system for at least two semesters) and 6 were classified as inexperienced LON-CAPA users (having never used the system before). Each group was made up of 3 females and 3 males.

All of the participants indicated they use the web daily for research, to find information for courses or other interests, read news or weather, check e-mail, and find product information or do shopping. The majority, 10 participants, were more familiar with the Windows system than the Macintosh system, and 2 were equally familiar with both. Ten participants used Google as their primary search engine. With respect to their typical behavior when visiting a website, 7 participants immediately access “search” and type in a keyword, 6 participants scan the headings to find relevant information, and 2 participants read all of the navigate items then decide how to read the content on the homepage. Many use combinations of these actions.

Experienced LON-CAPA participants used a course management system, LON-CAPA or otherwise, an average of six times a week, with 4 experienced participants using it every day and 3 experienced participants using it 2 to 4 times a week. Inexperienced participants generally used course management systems less frequently, with 2 never using them, and 1 each using them once a week, 2 to 3 times a week, 4 to 5 times a week, and every day.

Participants, regardless of experience, varied in their use of course management system features (LON-CAPA or otherwise). Of the experienced participants, 4 out of 6 indicated that they use the majority of features listed on the demographic questionnaire (see Attachment 3), as did 2 out of 5 inexperienced participants. The main features not used include:

- Enroll students;
- Upload PowerPoint/Lecture presentations;
- Upload audio or video clips;
- Code homework problems;
- Create Scantron (paper-based) exams;
- Use resources from the World Wide Web in courses;
- Use electronic resources from textbook publishers;
- Use another instructor's course materials to build their course;
- Search a repository for instructional resources;
- Participate in a chat session;
- Schedule or keep track of activities (using Calendar);
- Create and run a survey for their students;
- Calculate grades with an online grade book or spreadsheet;
- View/compile statistical data about course resource usage;
- Use a course management tool to check for plagiarism; and
- Assign students to groups/teams.

A similar number of participants in each group, 3 inexperienced participants (out of 5) and 2 experienced participants, indicated that they used fewer than half the features listed, including:

- Enroll students;
- Upload/create syllabus;
- Upload PowerPoint/Lecture presentations;
- Share course materials with someone else to use in their course;
- Send or view messages;
- Post/manage course announcement;
- Check class scores/grades; and
- Post grades.

For more detailed information about each participant, refer to Attachment 4.

Hardware and Settings

Computer: Dell Optiplex, 6x280, Intel (R) Pentium (R) 4 CPU 2.80 GHz 7.79 GHz, 513 MB of RAM, 17" monitor, Windows XP Edition. The default screen resolution was 1024x768 pixels. The site was displayed in Internet Explorer 6.0 running over a T3 Internet connection.

Severity Ratings

The ratings are adapted from those defined by Mark Pearrow in his Web Site Usability Handbook.

Rating	Definition
1	Low Priority - a problem which effected less than 20% of Participants tested; need not be fixed unless extra time is available on project – should be given low priority.
2	Medium Priority – a problem which affected 20-35% of Participants tested; less important to fix– should be given medium priority.
3	High Priority - a problem which affected 36-50% of Participants tested; very important to fix – should be given high priority.
4	Very High Priority - a problem which effected over 50% of Participants tested – imperative to fix this before the product is released.

IV. Experimental Design

Evaluation session protocol

One-on-one sessions lasted an hour for each participant, and included:

- Verbal overview and description of the study – Participants were given a description of the general nature of the study and the order of activities included in the session. See Attachment 1 for the moderator’s guide.
- Informed consent form for human subjects – Each participant was asked to sign the Consent Form before they participated in the study. See Attachment 2.
- Demographic questionnaire – Participants were given a brief questionnaire to gather background information on their work and Internet experience and general use of course management systems. See Attachment 3 for the questionnaire and Attachment 4 for the results.
- Task scenarios performance – Participants were asked to perform several typical tasks using the LON-CAPA system. During the tasks, participants were asked to think aloud and verbalize any confusion. This enables researchers to identify areas of difficulty, as well as usage patterns and patterns and types of participant errors. See Attachment 5 for the listing of task scenarios with associated probe questions and attachment 6 for a breakdown of the results by task.
- Post-study questionnaire – A post-study questionnaire was administered to address specific aspects of the tasks and obtain satisfaction ratings. See Attachment 7.
- Post-study debriefing – Participants were debriefed at the end of the session and given a hard copy of the usability-evaluation information.

NOTE: Selected screenshots can be found in Attachment 8.

Testing room setup

Usability evaluations were conducted at the state-of-the-art Usability & Accessibility Center, within University Outreach and Engagement at Michigan State University, East Lansing, Michigan. The facility incorporates cutting-edge technologies and multipurpose spaces within an aesthetically appealing and accessible business environment. Each of the rooms in the facility has multiple purposes and capacities, and all spaces protect the privacy of individuals and accommodate those with disabilities. The usability testing room is equipped with three computers; digital video, audio, and screen recording equipment; a document camera; Internet connectivity; and white boards. The space includes an adjustable height workstation, and all computers have JAWS for Windows and Zoomtext assistive technologies for blind and low vision users. Mixing and other production equipment are used to create picture-in-picture output for live viewing, as well as recordings for later analysis and reporting. Clients observe the test activities from an observation room through live video and audio feeds to a projection screen.



Metrics

Key usability goals included effectiveness, which refers to how well a system does what it is supposed to do; efficiency, or the way a system supports users in carrying out their tasks; and satisfaction, which relates to the subjective responses users have to the system.

The quantitative measures included:

- percentage of tasks completed successfully;
- types of errors;
- and mean time to perform a particular task.

The qualitative measures included:

- participant satisfaction ratings (post-study questionnaire);
- verbal feedback during and after the session;
- and written feedback on the demographic and post-study questionnaires.

V. Results

Inexperienced users took significantly more time to complete each task than experienced users, ranging from approximately 2 to over 4 times as long. For this reason, the task results will be discussed by user group in the summaries below, while including overall outlines and recommendations.

Task Summary Table

Task	Exp. - Successful Task Completion	Exp. – Mean time to perform task successfully (in minutes)	Inexp. - Successful Task Completion	Inexp. - Mean time to perform task successfully (in minutes)	Combined - Successful Task Completion	Combined - Mean time to perform task successfully (in minutes)	Usability Severity Rating (1-4 with 4 = very high severity)
Task 1 (Hide Discussion Post)	5/6; 83%	0:44	2/6; 33%	2:17	7/12; 58%	1:11	3
Task 2 (Change Homework Due Date)	6/6; 100%	1:09	5/6; 83%	5:06	11/12; 92%	2:57	1
Task 3 (Change Homework Problem Weight)	4/6; 67%	2:04	0/6; 0%	N/A	4/12; 33%	2:04	4
Task 4 (Check Student Submissions)	5/6; 83%	2:29	4/6; 67%	5:47	9/12; 75%	3:57	2
Task 5 (Upload PowerPoint Presentation)	6/6; 100%	1:26	5/6; 83%	3:17	11/12; 92%	2:17	1
Task 6 (Upload Score File)	0/6; 0%	N/A	0/4; 0%	N/A	0/10; 0%	N/A	4
Task 7 (Check Homework Scores)	5/6; 83%	1:31	1/2; 50%	2:26	6/8; 75%	1:31	2

Refer to Attachment 6 for detailed performance results by task.

Post-Study Questionnaire Results

In the post-study questionnaire, participants rated both the individual tasks and the LON-CAPA system as a whole. The results for the individual task ratings can be found below in the task summaries.

Overall, participants gave the system’s ease of use an average rating of 2.73 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ However, there was variation between experienced and inexperienced participant ratings. Inexperienced participants rated the system’s ease of use an average

of 1.8 while experienced participants rated it an average of 3.5. When asked to rate how the system's features met their expectations, they gave an average rating of 3.75 on a scale from 1-5, where 1 was 'not at all' and 5 was 'very much so.' Here there was a moderate variation between the two participant groups, with experienced participants giving a higher average rating of 4.33 to the inexperienced participants' 3.17. When asked to rate how easy LON-CAPA's organization was to understand, participants gave an average rating of 2.73 on a scale where 1 was 'very difficult' and 5 was 'very easy,' experienced participants rating it higher, with an average of 3.17, than inexperienced participants, with an average of 2.2. Regarding ease of navigating through the site, an average rating of 2.55 was given for the same scale, with experienced participants giving a rating of 3.5 and inexperienced participants giving a rating of 2. And finally, when asked to rate how useful they found the LON-CAPA system to be, participants gave an average rating of 4.33 on a scale from 1-5 where 1 was 'not at all' and 5 was 'very useful'. For this rating the experienced participants' average rating was 5 and the inexperienced rating was 3.67.

These results show that although participants did not find LON-CAPA particularly useable, they did find it to be useful. This was true for even inexperienced users, who had a much less satisfactory time with LON-CAPA by every measure and failed many of the tasks. There is considerable opportunity for improvement, especially in the areas of application organization and features.

For detailed results from the Post-study Questionnaire, including satisfaction ratings, refer to Attachment 7.

Task 1 Results – Hide Discussion Post

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
5/6	0:44	2/6	2:17	7/12	1:11	3

For the first task, participants were asked to remove an inappropriate post from the discussion list, in order to respond to it later.

- Seven of 12 participants successfully completed the task, with an average task time of 1 minute and 11 seconds.
- One experienced participant gave up after 2 minutes and 36 seconds.
- Two inexperienced participants gave up after approximately 2 minutes and 50 seconds.
- One inexperienced participant experienced a system error. See the summary below for further details.
- One inexperienced participant committed an error, deleting the post instead of hiding it.
- Post-study Questionnaire: All of the participants gave this task an average rating of 3.33 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 4, and inexperienced participants gave it an average rating of 2.67.

Experienced

- Five of 6 experienced participants successfully completed the task, with an average task time of 44 seconds.
- The experienced participant who did not complete the task successfully gave up after 2 minutes and 36 seconds. This participant did not see the area presenting new discussion posts on the ‘What’s New’ page, saying “I don’t see on the screen anything that seems to indicate that here is a note from someone; it would be helpful to have something that would show [new notes].”
- One participant clicked “Post” from the ‘What’s New’ page but didn’t see the options message initially, abandoning the post and only noticing the options upon returning to it later: “I didn’t notice the options when I went to click on it.”
- Of the 5 experienced participants who completed the task successfully, 4 immediately accessed the new discussion post from the ‘What’s New’ page. One participant said, “(That) The main log-in page has all of the new posts so you don’t have to search for them is helpful, especially with inappropriate posts.”
 - The participant who did not complete the task successfully navigated to the discussion post using ‘Navigate Contents’ stating, “I don’t usually use the ‘What’s New’ page.”

Inexperienced

- Two of 6 inexperienced participants successfully completed the task, with an average task time of 2 minutes and 17 seconds.
- Two inexperienced participants gave up, one doing so after 1 minute and 53 seconds and the other after 6 minutes and 18 seconds.
- One committed an error (after 2 minutes and 50 seconds) by deleting the post instead of hiding it, thus being unable to respond to it later.
- One experienced an error message which forced him to have to log out and log back in again, but upon logging back in was in the course’s student mode rather than the course coordinator mode.

- Three of the participants didn't see a link to the new post on the 'What's New' page: "Where is this posting and how do I get it? I'm looking for something fairly obvious that tells me where there's a chat room or a posting."; "Ok, where's the posting? I expected it to be on the start page, like "new postings."
 - The participant who experienced a system error had difficulty finding the 'What's New' page once he had left it: "There's got to be a way to find the screen we started at ...Now I can't even get back to where I was. I have no idea how to get back there."
- Of these participants (above), 1 looked in CHAT, and 1 looked in both CHAT and COM.
 - Of the CHAT feature one said, "I would expect this to say 'read posts' and there's only the capacity here to make them, not read them. It doesn't tell me anyone's posted anything...I would expect to be able to do that task in CHAT."
 - Of COM the participants who went there stated, "Where else would a student post something?" and "You have no unread messages—where the heck is it?"
- Two of the participants sought user assistance (help) features to aid them in this task, but couldn't locate them: "I don't see help. I would want to use on-line help before I'd call somebody...It would be helpful as a coordinator to have instructions."; "I only know about hiding because of other content management system experience, if I didn't it would've been harder because a help button doesn't jump out at me. I would expect it to be like 'LON-CAPA,' in the upper-right hand corner in capital letters."

Recommendations

- Re-design the 'What's New' page and headings so that key tasks like finding discussion posts stand out and are easily accessible.
- Make purposes of all buttons clear from a user, not system standpoint. For example, make the distinction between the purposes of CHAT versus COM clearer, possibly by re-labeling the menu buttons and/or centralizing all communication features within one button or row of buttons separated from other buttons by contextually relevant headings.
- Create a dedicated discussion area so that posts can be accessed through the main navigation, as well as the 'What's New' screen and the homework problem or resource that they are associated with.
- Allow users easier return to the What's New page without forcing the user to logout and log back in.
- Make Help links more apparent, possibly using text-based links, and create a centralized searchable/browsable Help area.
- Fix the system error, reviewing a recording of the evaluation if more information is necessary.

Task 2 Results – Change Homework Due Date

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
6/6	1:09	5/6	5:06	11/12	2:57	1

For the second task, participants were asked to extend the due dates for a homework set.

- Eleven of 12 participants successfully completed the task, with an average task time of 2 minutes and 57 seconds.
- One inexperienced participant gave up after 6 minutes and 11 seconds.
- Post-study Questionnaire: All participants gave this task an average rating of 3.58 on a scale from 1-Five, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 4, and inexperienced participants gave it an average rating of 3.17.

Experienced

- Six out of 6 experienced participants successfully completed the task, with an average task time of 1 minute and 9 seconds.
- All 6 of these participants used the Table Mode to accomplish this task.
- Two participants indicated having difficulty choosing between all of the options in the PARM menu to do tasks like this: “It was fine because I’ve done this a lot but when you start it’s hard to figure out because there’s so many parameter modes...All the options are difficult, if you don’t know you’d have to click through all of them to see what the differences are. If it had an explanation of what you could do with each mode and even difficulty levels next to them that would make it easier.”; “On the PARM menu it’s hard to figure out which option to use. It could be more descriptive and it would be nice to be able to rearrange it to put your favorite option at the top.”

Inexperienced

- Five out of 6 inexperienced participants successfully completed that task with an average time of 5 minutes and 6 seconds.
 - All of these participants navigated to the homework set by going to ‘Navigate Contents’ and choosing PPRM.
- The inexperienced participant who gave up did so after 6 minutes and 11 seconds. This participant went to COM and was expecting a way to be able to send notification to students that the due date had been extended.
- Three of the participants commented on difficulties with features of the table under PPRM: “It’s very visually dense; the colors aren’t helpful sorting it out. Names of columns are very much the language of a database developer...The amount of hacking through was more than I would have wanted to deal with. The [table] should be formatted differently to see more information at the left and on top. The column headers should also be renamed.”; “As far as changing the date I didn’t think to click on the date, I was more concerned with up here [the options above the table], I thought I had to change it for the whole group. I just wasn’t seeing that you could have a link with these different labels.”; “I wasn’t sure if ‘store’ was the correct action. It told me that it was going to keep it somewhere in the database but I didn’t know if it was going to actually change it.”

Recommendations

- Help users choose between options in the PARM menu by renaming/re-labeling menu options to more accurately match the user's natural language, as well as by including more user-centered explanations/descriptions of each menu option.
- Put the options in a recognizable hierarchy, for example, from most to least used. If possible, give users the ability to re-order the options as they wish.
- Streamline some features—e.g. enable faculty to send a message to students along with a 'Parameter' change.
- Consider breaking the menu into categories such as grading, communication, etc, to help users understand the various menu options.
- Re-design the table:
 - Make editable/linked areas more obvious by using a link other than a textual dash.
 - If the table requires scrolling, ensure that column headers and row titles are repeated, so that users do not have to repeatedly scroll up and down to ensure they are in the right table column or row.
 - Give users the ability to narrow the options visible in the table so that users can view the table without too much scrolling and can filter out columns and rows that are inapplicable to their goals.
 - Ensure that all column and row headers are viewable regardless of how far the user has scrolled down the screen.
 - Make column and row headers match the user's language and goals.
- Change the term 'store' to a more widely used and expected term like 'save.'

Task 3 Results – Change Homework Problem Weight

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
4/6	2:04	0/6	N/A	4/12	2:04	4

For the third task, participants were asked to change to the weight of a single homework problem in a homework set.

- Four of 12 participants successfully completed the task, with an average task time of 2 minutes and 4 seconds.
- Seven participants gave up (1 experienced and all 6 inexperienced participants) after an average time of 5 minutes and 15 seconds.
- One experienced participant committed an error, incorrectly completing the task, after 3 minutes and 35 seconds.
- Post-study Questionnaire: All participants gave this task an average rating of 2.25 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 3.33, and inexperienced participants gave it an average rating of 1.17. This was one of two tasks to receive a severity rating of 4.

Experienced

- Four out of 6 experienced participants successfully completed the task after an average time of 2 minutes and 4 seconds.
- One gave up after 5 minutes and 56 seconds. This participant first went to PARM and then navigated to the problem and went to PGRD.
- One committed an error after 3 minutes and 35 seconds. This participant changed the weight for every problem in the homework set because the option for ‘map/folder’ level was chosen instead of ‘resource level.’
- The 4 experienced participants who successfully completed the task did so by using the Table mode.
- One participant successfully changed the weight for the correct problem but also accidentally changed the weight for another problem. This occurred as the participant was navigating and scrolling through the table and accidentally selected the wrong problem, changed its weight, then was unable to verify that it had been changed on the table and moved on to change the weight for the correct problem.
 - This participant’s comments are similar to those of participants during the previous task who also cited difficulties with the features of the table: “This is very annoying that you can’t see the headings [of the table] when you scroll down to the problems...I can’t find where I’m located, which problem was I at?...the table is cumbersome...I can’t see the problems and how they’re organized in folders. It would be easier to choose a set and then be able to see a list of problems instead of being able to see everything; I’d like to be able to narrow it down.”

Inexperienced

- None of the inexperienced participants successfully completed the task. They all gave up after average time of 5 minutes and 8 seconds.

- All of these participants used either ‘Course Documents’ or ‘Navigate Contents’ to navigate to the homework problem and then wandered throughout the system from that point.
- Referring to where or how they would expect to accomplish the task, participants stated:
 - “I’m not sure if weight would be in PGRD, PPRM, or CAT.”
 - “I would assume weight would go along with grading so it would be in this general area [PGRD].”
 - “I wasn’t getting the clues; I expected to click on homework and have an option to change the parameter of the problem itself. I would assume it would be like PPRM for this specific problem.” and similarly, “I don’t see something here [in homework problem] like ‘click here to edit what you posted.’”
- Also referring to difficulty with table features: “I was able to click on the date in the table to change it, but I can highlight the number [for weight] but I can’t change it. So you either need to turn on edit or set it up elsewhere and this is just the display...apparently that table isn’t the editing place for all of the aspects of the course. I don’t see an editing thing. I’d assume PPRM is substituting for an edit button but when I went there everything [on the table] wasn’t editable.”

Recommendations

- Re-design the table:
 - Make editable/linked areas more obvious by using a link other than a textual dash.
 - If the table requires scrolling, ensure that column headers and row titles are repeated, so that users do not have to repeatedly scroll up and down to ensure they are in the right table column or row.
 - Give users the ability to narrow the options visible in the table so that users can view the table without too much scrolling and can filter out columns and rows that are inapplicable to their goals.
 - Ensure that all column and row headers are viewable regardless of how far the user has scrolled down the screen.
 - Make column and row headers match the user’s language and goals.
- Revise form terms like ‘Map/Folder level’ and ‘Resource Level’ to reflect natural user understanding rather than system-based terminology.
- Make Menu item labels, e.g. PPRM, PGRD, etc., match natural language to help users choose which serve their goals best.

Task 4 Results – Check Student Submissions

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
5/6	2:29	4/6	5:47	9/12	3:57	2

For the fourth task, participants were told that a student had claimed that the system had incorrectly scored his answers for a homework problem. They were then asked to verify whether a student’s answer was being marked correctly by the system.

- Nine of 12 participants successfully completed the task, with an average task time of 4 minutes.
- Two participants (1 experienced and 1 inexperienced) committed an error, incorrectly assuming that they completed the task; in 33 seconds for the experienced participant and 3 minutes and 50 seconds for the inexperienced participant.
- One inexperienced participant gave up after 2 minutes and 21 seconds.
- Post-study Questionnaire: All participants gave this task an average rating of 3.42 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 3.5, and inexperienced participants gave it an average rating of 2.67.

Experienced

- Five out of 6 experienced participants successfully completed the task after an average time of 2 minutes and 30 seconds.
- Three experienced participants used CHRT to accomplish this task and 3 used PGRD.
- The experienced participant who committed an error after 30 seconds, incorrectly deduced that the student had not attempted to do the homework: “It says that he hasn’t done the homework because there should be digits under Homework 3 that say how many attempts and there aren’t any.” This happened because, after generating a chart in the CHRT area, the participant mistook the number 0 for the number of times the student had attempted solving the problem.
 - Another participant cited similar difficulties with the presentation of the information in the chart: “One needs to know that you need to click on the score[to get to the submission results], but it’s alright after you do it a few times. But it should be available with the click of a few buttons from the very beginning.”

Inexperienced

- Four out of 6 inexperienced participants successfully completed the task after an average time of 5 minutes and 45 seconds.
- One inexperienced participant gave up after 2 minutes and 21 seconds.
- One inexperienced participant committed an error after 3 minutes and 50 seconds. This participant generated a spreadsheet in SPRS and then clicked on the student’s name to be taken to a spreadsheet broken down by homework set problems. The participant incorrectly decided that the student had not been marked incorrectly when they saw the results ‘correct’ for problem 1 of Homework Set 1, rather than problem 1 of Homework Set 3.
- Three participants (one who committed the error mentioned above) had trouble distinguishing the system’s correct answer from the student’s attempted answer(s): “That [the system’s answer] must be where she put in her answer.”; “Is the correct answer what Jaime submitted or the answer for the problem? Supposedly this is the correct answer and Jaime’s submissions are here [below].”

- Five participants used PGRD to accomplish the task. Only one inexperienced participant immediately went to PGRD. Of the others, 1 participant went to STAT and SPRS first, 1 went to CHRT and SPRS first, and 2 went to SPRS first.
 - Of the PGRD area, one participant stated: “[The form] was a little confusing as far as what to select.”

Recommendations

- Make results in generated chart clearer, i.e. do numbers represent the number of tries or a score?
- Make clickable areas on generated chart more obvious and include explanation of what users can do when clicking on something.
- Make “HTML with links” the default option and/or remove extraneous options like “HTML with all links” and “HTML with no links.” Also, include an explanation of what each of the choices in the form allows.
- Re-label the main menu items to match user terminology and help users better distinguish between system features.
- Keep all information spanning left to right on the screen – users should only scroll down, not across.
- Reduce scroll on spreadsheet by allowing the user to narrow/filter the results.
- Help users distinguish between the correct answer on the system and student submissions by making labels/headings stand out more.

Task 5 Results – Upload PowerPoint Presentation

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
6/6	1:26	5/6	3:17	11/12	2:17	1

The fifth task asked participants to upload a PowerPoint file from the desktop of the computer to their Lecture Slides folder on LON-CAPA.

- Eleven of 12 participants successfully completed the task, with an average task time of 2 minutes and 15 seconds.
- One inexperienced participant committed an error, incorrectly completing the task after 6 minutes and 30 seconds.
- Post-study Questionnaire: All participants gave this task an average rating of 3.92 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 4.17, and inexperienced participants gave it an average rating of 3.67.

Experienced

- Six out of 6 experienced participants successfully completed the task after an average time of 1 minute and 25 seconds.
- All 6 of these participants went to Course Documents as their first step to do this task.
- Four experienced participants ‘re-initialized’ the course after uploading the document. 2 said of their perception of the ‘re-initialize’ button’s function: “This is to make sure that it’s in there...I’ve heard if you don’t hit the button and continue to do things in the course you won’t see it until you log back in.”; “I do this so that it’s available for the students.”
- Two experienced participants went to Navigate Contents after uploading the document to verify that the document had been correctly uploaded. Both ‘re-initialized’ the course before doing so. One commented: “To check I go to Navigate Contents because this is the screen that the students see.”
- Two participants incorrectly tried to ‘import a document’ before ‘uploading’ the document: “I went to import a document first but it says ‘published documents’ and I guess those are already on LON-CAPA.”

Inexperienced

- Five out of 6 inexperienced participants successfully completed the task after an average time of 3 minutes and 17 seconds.
- One inexperienced participant committed an error, assuming incorrectly that she had completed, by typing the file name into the ‘browse’ field instead of browsing for it “There’s no indication that it’s uploading, I need to make sure it’s there.” She then used user-assistance (Help) and wanted to re-initialize the course but could not: “I don’t know if it was uploaded or not and there is no re-initialize course button. I think the steps I took were right but I don’t have feedback that it worked, like an error message with instructions.” She took 6 minutes and 30 seconds.
- Five inexperienced participants went to Course Documents first to do this task.
- One inexperienced participant went to Navigate Contents first and navigated to the Lecture Slides folder, expecting to use the Select Action menu to do the task (the participant later moved to

Course Documents): “I’d expect to have posted the actions I could take in the Lecture Slides folder in the navigation [Select Action Menu].”

- Two participants ‘re-initialized the course’ and one also clicked the link from Course Documents to get to the resource and clicked on the document’s link to verify that it had been uploaded correctly.
 - 2 other participants who did not ‘re-initialize’ also clicked the link from Course Documents to verify that it had been uploaded . One stated, “It says I have to re-initialize, I would [do this] depending on how far ahead I am—I’m not even sure what it does.”
- Two participants clicked the link from Course Documents to get to the resource and clicked on the document’s link to verify that it had been uploaded correctly.
- One participant went to Navigate Contents directly to verify that it had been correctly uploaded.
- One participant uploaded the document into the main area instead of into the Lecture Slides folder, then looked in the folder (from the Course Documents area) to verify that it had been uploaded. She then re-initialized the course and assumed it was in the system even though she couldn’t visually locate it: “Does re-initialize mean I have to log in again? I would assume it would show me if it’s there...I would want to look for it to see if it’s there (looks in folder again). Yeah, I can’t see it, I’m not sure how I get to view things.” (She was counted as having successfully completed the uploading task, albeit to a different location).

Recommendations

- Enable users to add an uploaded document to a folder directly from the main Course Documents page.
- Make the re-initialization process automatic and transparent to the user. If necessary, for the short-term, Rename the ‘re-initialize button’ to a more intuitive term like “finalize upload”, and include a clearer explanation of its purpose like ‘new documents will be viewable after you click finalize upload or log back in to the system.’
- Confirm all document uploads to users, providing a link to the document so that users can navigate directly to it.
- Clarify the difference between ‘importing’ documents and ‘uploading’ documents by revising labels, for example: “Import raw data” and “Upload document”. Relabel or clarify other confusing terms, such as ‘published documents’ and ‘supplemental’ resources, etc.
- Consider re-labeling main navigation items to help users distinguish between the purpose of the Navigate Contents area and the Course Documents area.

Task 6 Results – Upload Score File

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
0/6	N/A	0/4	N/A	0/10	N/A	4

For this task, participants were asked to upload a scoring office data file from a quiz given outside of LON-CAPA (a text document which they were told contained student IDs and quiz scores in points) on to the LON-CAPA system.

- Only 10 participants attempted the task as 2 inexperienced participants did not have the time to complete it. No one was successful. This was one of two tasks to have a severity rating of 4.
- Eight participants gave up after an average of 4 minutes and 40 seconds.
- One experienced participant committed an error, incorrectly completing the task in 5 minutes and 25 seconds.
- One inexperienced participant experienced a system error and gave up after 4 minutes. See the inexperienced participant task summary below for further details.
- Post-study Questionnaire: All participants gave this task an average rating of 1.9 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 1.67, and inexperienced participants gave it an average rating of 1.67.

Experienced

- None of the 6 experienced participants who attempted the task it was successful.
- Five out of 6 experienced participants gave up after an average task time of 2 minutes and 55 seconds.
- One experienced participant committed an error, incorrectly completing the task in 5 minutes and 25 seconds. The participant navigated to Quiz 3 and clicked PGRD, and then clicked the ‘Grade scantron forms’ button. The system notified the participant of an error with student IDs not matching the class list. The participant stated, “I would assume that I’d uploaded it correctly and it would work.”
- There were no consistent trends among experienced participants’ starting points and paths, illustrating confusion about how to accomplish this task:
 - Three experienced participants went to Course Documents first.
 - One participant clicked the ‘Upload Score Form’ button.
 - Another went to CHRT, expecting it to be a place where he could upload data: “I would suspect that this is probably my best choice...it would be nice to have a screen here that says ‘input format’ and input data’ if that was here I could do it. In my mind this is the logical place for it, with student grades, and ‘input’ and ‘output’ should be together.”
 - Two experienced participants went to SPRS first and then moved on to other places in the system before giving up.
 - One of these moved on to Navigate Contents and clicked on PGRD before giving up at that point.

Inexperienced

- None of the 4 inexperienced participants attempting the task were successful. Two participants did not have time to attempt it.

- Three out of 4 inexperienced participants gave up after an average time of 7 minutes and 30 seconds.
- One inexperienced participant experienced a system error and gave up after 4 minutes. This participant opened the ‘remote control’ feature and a pop-up blocker stopped the remote control from opening. She stated, “What is this? No, that doesn’t do anything.” and quickly clicked the browser’s back button. At this point she could no longer access the top navigation and could not navigate to the Main Menu using the system (only by using the browser’s back button and refreshing the screen) or anywhere else in the system.
- Of the 3 inexperienced participants who gave up, 1 started out at Course Documents and 2 started out at SPRS, illustrating confusion among inexperienced participants similar to that of experienced participants (see experienced participant task summary above).
 - Each of these participants later navigated to PGRD and followed the score upload process (clicking the ‘Upload scores from file’ button), each experiencing errors until they gave up:
 - 2 chose ‘CSV (comma separated values, spreadsheet) as the file type and experienced errors as the file was a ‘space separated’ or ‘tabular separated document.’
 - 1 participant made the same mistake, but also chose the ‘ignore first line’ option assuming that the first line of the file would contain headers. Upon experiencing errors because of this he stated: “Was my file the right kind of file? Do I need to manually input the scores? I would go in one by one and enter the grades.”
 - One of these inexperienced participants who went to SPRS first generated a spreadsheet which created a page with an extremely long horizontal scroll: “This is spilling off of the right hand side.”
- Two inexperienced participants explained where and how they expected to accomplish the task: “I was confused about Quiz Scores and if this is where I was supposed to be. I would expect it to be on the Main Menu, like ‘Enter Grades’ or ‘Grade Book’...” and “It looks like ‘Grading’ is a major section but I want it to be an option on the [top navigation].”

Recommendations

- Make the browser’s Back button more easily and frequently usable, i.e. so that you can navigate throughout the system using the browser’s back button without having to refresh the page so often.
- Re-label the main menu items and system features to match user terminology and help users better distinguish between them, in this case review SPRS, PGRD, and CHRT in particular.
- Make Help links more apparent, possibly using text-based links, and create a centralized searchable/browsable Help area.
- Create instructions and documentation for this process.
- Put labels for score data types in plain language (e.g. CSV, etc.) and include explanations and definitions for each. Also, move most often used one to the top of the list.
- Create a centralized main navigation scheme that is accessible on all pages.
- Fix the large horizontal scroll in spreadsheet.

Task 7 Results – Check Homework Scores

Exp. – Successful Task Completion	Exp. – Mean time to perform task successfully	Inexp. – Successful Task Completion	Inexp. – Mean time to perform task successfully	Combined - Successful Task Completion	Combined - Mean time to perform task successfully	Usability Severity Rating
5/6	1:31	1/2	2:26	6/8	1:31	2

The seventh task asked participants to check student scores on an individual homework set.

- Six out of 8 participants who attempted the task completed it successfully with an average task time of 1 minute and 30 seconds.
- Only 8 participants attempted the task as 4 inexperienced participants did not have the time to complete it.
- Two participants gave up: 1 was experienced and gave up after 3 minutes and 40 seconds, and 1 was inexperienced and gave up after 5 minutes and 15 seconds.
- Post-study Questionnaire: All participants gave this task an average rating of 3.33 on a scale from 1-5, where 1 was ‘very difficult’ and 5 was ‘very easy.’ Experienced participants gave it an average rating of 3.83, and inexperienced participants gave it an average rating of 2.33.

Experienced

- Five out of 6 experienced participants successfully completed the task in an average time of 1 minute and 31 seconds.
- One experienced participant gave up after 3 minutes and 40 seconds. The participant went to CHRT first but then moved on to STAT to accomplish the task where he gave up. He stated, “I see some statistics here. This involves other issues; they don’t have the answer and the precise question.”
- The 5 experienced participants who successfully completed the task immediately went to CHRT where they generated a chart to accomplish the task. 1 participant chose to generate an Excel spreadsheet which he used to accomplish the task
- One experienced participant said regarding the chart, “It would nice [if you could click on a heading] to be able to organize the chart.”

Inexperienced

- Only 2 inexperienced participants completed the task as 4 of them did not have time to attempt it.
- Of these 2, 1 inexperienced participant successfully completed the task with a time of 2 minutes and 26 seconds. This participant went to CHRT and generated a chart. While doing so, the participant cited confusion with the options: “‘Scores per problem? No, I want the whole thing, ‘Scores Summary.’”
- The other inexperienced participant to attempt the task gave up after 5 minutes and 15 seconds. The participant navigated to the first problem in the homework set through Course Documents and chose PGRD and stated, “This isn’t really what I want. I want a list or table of grades with a point total for the entire homework set. I want to find a grade book.” The participant then navigated to SPRS where they gave up.

Recommendations

- Enable users to easily customize the site and/or filter results.
- Re-evaluate for language to more clearly match user understanding.

Attachment 1 – Moderator’s Guide

I. Overview of Study (3 minutes)

Thank you for agreeing to participate in our study. We are very interested in obtaining your feedback about the LON-CAPA course management system. A course management system is a web-based application that allows faculty to organize course information and facilitate course interaction so that students to retrieve information about their assignments, download course materials, participate in online discussions, and so forth. We are trying to understand how people interact with the system doing typical tasks.

In this session, you will first fill out a questionnaire that asks how you use the Internet in your daily life and how you might use course management systems, like this one, in particular. Then I’ll ask you to complete several tasks using the system. As you are completing each task, please speak aloud to let me know what you are doing. Be sure to point out anything you encounter that is unexpected or surprising. When you have completed each task, I’ll ask you a series of questions about the system and how you interacted with it. I’ll also ask you some questions after you have tried all of the tasks and have you fill out a brief feedback questionnaire. Remember that this is an evaluation of the system’s ease of use and not of your individual performance. Do you have any questions at this point?

Before we get started, we have some paperwork to get through.

- Consent form **(2 minutes)**
- Demographic questionnaire **(5 minutes)**

III. Task Instructions and Task Scenarios Performance (45 minutes)

- Open LON-CAPA from the favorites list to start the session.
- Adjust the webcam for the participant and turn on the Morae software.
- Read the first task to the participant.
- After reading the instructions, ask participant to inform you when they have completed the task or when they would like to give-up.
- During the task observe where participants began and any problems they had locating the information. Remind them to speak aloud, as necessary.
- After the first task ask the probe questions.
- Repeat steps three to six for each subsequent task.

V. Post-study Questionnaire (5 minutes)

Facilitator asks participants to fill out the post-study questionnaire.

VI. Wrap up

- Give participants a debriefing document with the usability test information and give them their parking pass.

Attachment 2 – Consent Form

Consent Form

MSU’s Office of University Outreach & Engagement is conducting research to evaluate the usability and accessibility of a website. User testing sessions of the website are being conducted to gather this information. These sessions will be video taped to ensure accuracy of comments and to assist in application of the findings. The findings from these sessions will be used to guide changes to improve the usability of the website.

If you agree to participate in the research, you will be asked to review the website in the presence of a researcher, while being video taped, and share your thoughts and insights as you move through the site. Through this review, you will be asked to respond to an initial brief questionnaire. You will then be asked to verbally provide your first impressions of some web pages and will be presented with some tasks for reviewing the website. Finally, you will be asked to complete a brief questionnaire evaluating your overall experience. Your participation will take approximately one hour. No risk from participation is anticipated. The information that you provide, along with information from other people, will be used to improve the website.

Any information you share will be kept confidential; your name will not be associated with your data. The full videotapes will be seen only by the website evaluation team. However, highlight video clips may be shared with the website evaluation team and/or used for informational materials about usability and accessibility testing. Your privacy will be protected to the maximum extent allowable by law.

Your participation is completely voluntary. You may choose not to participate at all, may refuse to participate in certain procedures or answer certain questions, or may discontinue your participation at any time without penalty. Your decision to participate will not affect your relationship with Michigan State University, University Outreach and Engagement, or the person who identified you as a potential participant. Agreeing to participate and signing this form does not waive any of your legal rights.

If you have any questions about this study, please contact the researcher Sarah J. Swierenga by phone: (517) 353-8977, or mail: Michigan State University, Kellogg Center, Garden Level, East Lansing, MI 48824.

If you voluntarily agree to participate in this research, having your comments video taped, and have had all your questions answered, please sign below.

Participant’s Signature

Date

Researcher’s Signature

Date

Attachment 3 - Demographic Questionnaire

Name: _____ Phone: _____
E-mail: _____

College/Field of instruction: _____

How often do you use the Internet?

_____ never _____ less than once/week _____ 1-2 times/week
_____ 2-5 times/week _____ every day

Which web search engine do you use most often? _____

Which other web search engines do you use regularly? _____

Are you more familiar with Windows or Macintosh computers? _____

What do you typically look for on the Internet?

What do you usually do when you visit a website? (select all that apply)

_____ read all the navigation items then make a decision how to proceed
_____ scan the headings to find relevant information
_____ read the content on the homepage, then decide how to proceed
_____ access the site map if one is available
_____ immediately access the “search” and type in a keyword
_____ other

In how many classes have you used LON-CAPA as a faculty member?

_____ none
_____ one
_____ two
_____ three
_____ four
_____ more than four

How often do you use a course management system, LON-CAPA or otherwise?

_____ never
_____ once a month
_____ 2-3 times a month
_____ once a week
_____ 2-3 times a week
_____ 4-5 times a week
_____ every day

What course management systems have you tried?

- LON-CAPA
- Michigan State's Core System (Angel)
- Blackboard
- Web CT
- personal website
- other _____
- I don't know

What do you use course management systems, LON-CAPA or otherwise, to do?

- enroll students
- give TAs and other instructors access to your course
- upload/create syllabus
- assign offline readings or homework
- upload PowerPoint/Lecture presentations
- upload audio or video clips
- create homework assignments
- code homework problems
- create online quizzes or tests
- create randomized Scantron (paper-based) exams
- use resources from the World Wide Web in your course
- use electronic resources from your course's textbook publisher
- use another instructor's course materials to build your course
- search a repository for instructional resources
- share your course material with someone else to use in their course
- organize or archive course materials
- control access to resources such as assigning a due date, number of tries for a homework problem, etc.

- send or view messages
- post/manage course announcements
- participate in on-line discussions or forums
- participate in a chat session
- schedule or keep track of activities (using Calendar)
- write notes/records about a student
- Create and run a survey for your students

- check class scores/grades
- post grades
- calculate grades with an online grade book or spreadsheet
- view/compile statistical data about students
- view/compile statistical data about course resource usage
- view previous student submissions to online homework
- hand-grade uploaded assignments from students
- use a course management tool to check for plagiarism
- assign students to groups/teams

- other _____

Have you had training for LON-CAPA before? Yes No (circle one)

If yes, how many sessions and what have you had training for?

Attachment 4 – Demographic Questionnaire Information

User	College/Field of Instruction	How often do you use the internet?	Which web search engine do you most often use?	Which other web search engines do you use regularly?	Are you more familiar with Windows or Macintosh computers?	What do you typically look for on the internet?
Participant 1 Exp., Female	Molecular & Cell Biology	Every Day	Google	Yahoo	Windows	Information for biology courses, research
Participant 2 Inexp., Male	Microbi-ology	Every Day	Google	Yahoo	Both	Information about unknowns, sports info.
Participant 3 Exp., Female	Chemistry	Every Day	Google		Windows	Research for chemistry.
Participant 4 Inexp., Female	Biochemistry/ Microbiology	Every Day	Google		Both	Images, background information
Participant 5 Exp., Male	Science	Every Day	Google	No Other	Windows	Search educational material, check e-mail
Participant 6 Inexp., Male	Agriculture Natural Resources	Every Day	Google	Google Scholar	Windows	Reference material, news and weather, e-mail
Participant 7 Exp., Male	Natural Science/Physi cs	Every Day	Google	Yahoo	Windows	
Participant 8 Inexp., Female	Social Science/Scho ol of Social Work	Every Day	Firefox	Explorer	Windows	Information, instructions, purchasing books and hobby related materials. Use msu.edu for Angel access.
Participant 9 Exp., Female	Family Commu-nity Services	Every Day	Google	None	Windows	My e-mail/weather/news
Participant 10 Inexp., Male	Fisheries & Wildlife	Every day	Google		Windows	News, product information (e.g. comparing product brands), shopping

Participant 11 Inexp., Female	Chemistry/Epidemiology	Every day	Mozilla	None	Windows	Research studies, Government information
Participant 12 Exp., Male	Physics	Every day	Google	None	Windows	Papers, news, information

User	What do you usually do when you visit a website?	In how many classes have you used LON-CAPA?	How often do you use a course management system, LON-CAPA or otherwise?	What course management systems have you tried?
Participant 1 Exp., Female	scan the headings to find relevant information	More than 4	Every day	LON-CAPA, Blackboard, Web CT
Participant 2 Inexp., Male	scan the headings to find relevant information; immediately access the “search” and type in a keyword	None	Never	Personal Website
Participant 3 Exp., Female	immediately access the “search” and type in a keyword	3 (2 fall semester, 1 spring semester)	Every day	LON-CAPA, Web CT, Other (Cyber Prof)
Participant 4 Inexp., Female	scan the headings to find relevant information	None	Never	
Participant 5 Exp., Male	immediately access the “search” and type in a keyword	More than 4	2-3 times/wk.	LON-CAPA, Angel
Participant 6 Inexp., Male	read all the navigation items then make a decision how to proceed; scan the headings to find relevant information; read the content on the homepage, then decide how to proceed	None	4-5 times/wk. (when teaching)	Angel
Participant 7 Exp., Male	immediately access the “search” and type in a keyword	More than 4	Every day	LON-CAPA, Angel, Blackboard

Participant 8 Inexp., Female	scan the headings to find relevant information; read the content on the homepage, then decide how to proceed; immediately access the “search” and type in a keyword	None	Every day	Angel, Other (My Helping Lab, textbook publisher site Allyn & Bacon)
Participant 9 Exp., Female	scan the headings to find relevant information	More than 4	Every day (when I’m teaching)	LON-CAPA, Personal Website
Participant 10 Inexp., Male	scan the headings to find relevant information; immediately access the “search” and type in a keyword	None	2-3 times/wk.	Angel, Blackboard
Participant 11 Inexp., Female	immediately access the “search” and type in a keyword	None	Once a week	Angel
Participant 12 Exp., Male	read all the navigation items then make a decision how to proceed	2	2-3 times/wk.	LON-CAPA, Personal Website, Other (Angel at another school)

User	What do you use course management systems, LON-CAPA or otherwise, to do?	Have you had LON-CAPA training before? If yes, how many sessions and what have you had training for?
Participant 1 Exp., Female	Enroll students, give TAs and other instructors access to your course, upload/create syllabus, assign offline readings or homework, upload PowerPoint/Lecture presentations, create homework assignments, code homework problems, create online quizzes or tests, use electronic resources from your course’s textbook publisher, use another instructor’s course materials to build your course, search a repository for instructional resources, share your course material with someone else to use in their course, organize or archive course materials, control access to resources such as assigning a due date, number of tries for a homework problem, etc., send or view messages, post/manage course announcements, participate in on-line discussions and forums, schedule or keep track of activities (using Calendar), write notes/records about a student, Create and run a survey for your students, check class scores/grades, post grades, view/compile statistical data about students, view/compile statistical	Yes; Learned the basics at the annual LON-CAPA conference last year (had never used it before that). Most of it I learned through help topics and on my own, but how to code problems I learned at the conference.

	data about course resource page, view previous student submissions to online homework, hand-grade uploaded assignments from students, use a course management tool to check for plagiarism	
Participant 2 Inexp., Male	Upload PowerPoint/Lecture presentations, check class scores/grades, post grades, calculate grades with an online grade book or spreadsheet, view/compile statistical data about students, Other (inform workers of weekly lab duties)	No
Participant 3 Exp., Female	Enroll students, give TAs and other instructors access to your course, upload/create syllabus, assign offline readings or homework, create homework assignments, code homework problems, create online quizzes or tests, share your course material with someone else to use in their course, organize or archive course materials, control access to resources such as assigning a due date, number of tries for a homework problem, etc., send or view messages, post/manage course announcements, participate in on-line discussions and forums, write notes/records about a student, check class scores/grades, post grades, view/compile statistical data about students, view/compile statistical data about course resource page, view previous student submissions to online homework, hand-grade uploaded assignments from students	Yes; One during Summer '05
Participant 4 Inexp., Female		
Participant 5 Exp., Male	Enroll students, upload/create syllabus, create online quizzes or tests, share your course material with someone else to use in their course, check class scores/grades	No
Participant 6 Inexp., Male	upload/create syllabus, assign offline readings or homework, upload PowerPoint/Lecture presentations, create homework assignments, create online quizzes or tests, use resources from the World Wide Web in your course, control access to resources such as assigning a due date, send or view messages, post/manage course announcements, participate in on-line discussions and forums, Create and run a survey for your students, check class scores/grades, view/compile statistical data about students, hand-grade uploaded assignments from students	No
Participant 7 Exp., Male	Enroll students, give TAs and other instructors access to your course, upload/create syllabus, assign offline readings or homework, create homework assignments,	Yes; Intro to Course Coordinating and Intro to Authoring.

	code homework problems, create online quizzes or tests, create randomized Scantron (paper-based) exams, search a repository for instructional resources, share your course material with someone else to use in their course, control access to resources such as assigning a due date, send or view messages, post/manage course announcements, participate in on-line discussions and forums, participate in a chat session, check class scores/grades, post grades, calculate grades with an online grade book or spreadsheet, view/compile statistical data about students, view/compile statistical data about course resource page, view previous student submissions to online homework, hand-grade uploaded assignments from students	
Participant 8 Inexp., Female	give TAs and other instructors access to your course, upload/create syllabus, assign offline readings or homework, upload PowerPoint/Lecture presentations, upload audio or video clips, create online quizzes or tests, create randomized Scantron (paper-based) exams, use resources from the World Wide Web in your course, use electronic resources from your course's textbook publisher, use another instructor's course materials to build your course, search a repository for instructional resources, share your course material with someone else to use in their course, organize or archive course materials, send or view messages, post/manage course announcements, participate in on-line discussions and forums, schedule or keep track of activities (using Calendar), Create and run a survey for your students, check class scores/grades, view previous student submissions to online homework, hand-grade uploaded assignments from students, assign students to groups/teams, Other (organize research projects & committee work)	No
Participant 9 Exp., Female	Enroll students, give TAs and other instructors access to your course, create homework assignments, code homework problems, share your course material with someone else to use in their course, control access to resources such as assigning a due date, number of tries for a homework problem, etc., send or view messages, post/manage course announcements, check class scores/grades (CAPA grades only), view previous student submissions to online homework, Other (post lab manuals)	Yes; 2 or 3, coding problems, using system, creating exams
Participant 10 Inexp.,	upload/create syllabus, assign offline readings or homework, upload PowerPoint/Lecture presentations, use resources from the World Wide Web in your	No

Male	course, organize or archive course materials, send or view messages, post/manage course announcements, check class scores/grades, post grades	
Participant 11 Inexp., Female	Share your course material with someone else to use in their course, send or view messages, Other (download material from user groups)	No
Participant 12 Exp., Male	Enroll students, give TAs and other instructors access to your course, upload/create syllabus, assign offline readings or homework, upload PowerPoint/Lecture presentations, create homework assignments, code homework problems, create online quizzes or tests, create randomized Scantron (paper-based) exams, use another instructor's course materials to build your course, search a repository for instructional resources, organize or archive course materials, control access to resources such as assigning a due date, number of tries for a homework problem, etc., send or view messages, post/manage course announcements, participate in on-line discussions and forums, write notes/records about a student, check class scores/grades, post grades, calculate grades with an online grade book or spreadsheet, view/compile statistical data about students, view/compile statistical data about course resource page, view previous student submissions to online homework, hand-grade uploaded assignments from students,	Yes; In my recollection, 3 LON-CAPA sessions and maybe 2 Angel sessions.

Attachment 5 – LON-CAPA Faculty Evaluation Task Scenarios

The following tasks were attempted by experienced and inexperienced faculty users using the LON-CAPA system.

First, log into the LON-CAPA system using this fake MSU Net ID and password: [Net ID], [password]. For this evaluation, you are only teaching one course that is using LON-CAPA, called the Usability course, and you are the only instructor using the system to teach this course.

Review the new discussion posts from students. There is a post from **Jaime Jones** that could be considered inappropriate. How would you remove this from the discussion list if you intend to respond to it later?

- Observation: Where do they go first?
- Observation: Problems locating this information?
- Probe: How was that task?
- Probe: Was it clear to you how to get the information you needed?
- Conditional Probe: If users access help, ask: How was the help feature in completing the task?

Time limit: 5 minutes

Success criteria:

Option 1:

- On 'What's New' screen, click the link to the new discussion post.
- Hide or delete the post.

Option 2:

- Go to 'Navigate Contents,' and find the discussion post under Quiz 3.
- Hide or delete the post.

How would you extend the due dates for Homework Set 3 to June 1 at 5pm?

Time limit: 5 minutes

Success criteria:

FOR OPTIONS 1-4, choose 'Main Menu' and click PARM.

Option 1:

- Click 'Set/Modify Resource Parameters - Helper Mode.'
- Click 'Next.'
- Choose 'Every problem in a particular folder (overrides course default)' radio button and click 'Next.'
- Choose Homework Set 3 radio button and click 'Next.'
- Choose 'Set a due date' radio button and click 'Next.'
- Enter the new due date and click 'Next.'
- Choose '...for all students in the course' radio button and click 'Next.'
- Click 'Finish Helper.'

Option 2:

- Click 'Modify Resource Parameters - Overview Mode.'
- Scroll down to Homework Set 3 options.
- Enter the new due date in the 'due date:' row.
- Scroll down and click 'Modify Parameters.'

Option 3:

- Click 'Set Resource Parameters - Overview Mode.'
- In the 'Select Parameter Level' drop-down menu, choose 'Map/Folder Level' (the default option). In the 'Select Enclosing Map or Folder' drop-down menu also choose 'Homework Set

3.'

- Check the 'problem due dates' check box and click 'Display.'
- Scroll down, enter the new due date and click 'Store.'

Option 4:

FOR EACH OF THESE PATHS: Click 'Set/Modify Resource Parameters - Table Mode.'

Path A:

- In the 'Select Parameter Level' drop down menu, choose 'Map/Folder Level' (the default option). In the 'Select Enclosing Map or Folder' drop down menu choose 'Homework Set 3.'
- Four boxes are already checked, along with the option needed, but the only box that needs to be checked is 'problem due dates.' Click 'Update Parameter Display.'
- Click the link date link in the 'Default Value' column in the 'Problem Due Date (duedate)' row.
- Enter the new due date and click the 'Store' link above the form fields.

Path B:

- In the 'Select Parameter Level' drop-down menu, choose 'Resource Level.' In the 'Select Enclosing Map or Folder' drop-down menu choose 'Homework Set 3.'
- Four boxes are already checked, along with the option needed, but the only box that needs to be checked is 'problem due dates.' Click 'Update Parameter Display.'
- In the 'for Enclosing Map or Folder' column, click any date link in a row labeled 'Problem Due Date.'
- Enter the new due date and click the 'Store' link above the form fields.

Option 5:

- Navigate to any problem in Homework Set 3
- In the 'for Enclosing Map or Folder' column, click on the date link in a row labeled 'Problem Due Date.'
- Enter the new due date and click the 'Store' link above the form fields.

For the last problem in Homework Set 3, how would you change the weight from 1 to 2?

Time limit: 5 minutes

Success criteria:

Option 1:

- Go to 'Navigate Contents,' and navigate to the last problem in Homework Set 3. [any means of navigating to the problem is OK]
- Click PPRM
- In the row 'Weight [Part: 0] (weight)' click the underscore in the 'For Resource' column
- In the pop-up window, type 2 in the textbox
- Click Store

Option 2:

- Click Main Menu
- Click PARM
- Click 'Set/Modify Resource Parameters - Helper Mode.'
- Click 'Next.'
- Choose the 'One particular problem (overrides folder and course defaults)' radio button and click 'Next.'
- Choose the last problem in Homework Set 3 radio button and click 'Next.'
- Choose the radio button for the last problem in Homework 3 and click 'Next.'
- Choose 'Set the problem weight' radio button and click 'Next.'
- Enter the new weight of 2 and click 'Next.'
- Choose '...for all students in the course' radio button and click 'Next.'
- Click 'Finish Helper.'

Option 3:

- Click Main Menu
- Click PARM
- Click 'Set/Modify Resource Parameters - Table Mode.'
- In the 'Select Parameter Level' drop down menu, choose 'Resource Level' (the default option).
- In the 'Select Enclosing Map or Folder' drop down menu choose 'Homework Set 3.' or leave as 'All Maps of Folders.'
- Four boxes are already checked, along with the option needed, but the only box that needs to be checked is 'problem weight.' Click 'Update Parameter Display' button.
- In the row for:
- URL: msu / physicslib / msuphysicslib / 05_1D_Motion / msu-prob51.problem
Title: Average speed
Enclosing Map or Folder: Homework Set 3
In the sub-row Weight [Part: 0] (weight)...
- Click the underscore in the 'For Resource' column.
In the pop-up window, type 2 in the textbox
- Click Store

A student, **Jaime Jones**, claims that LON-CAPA has incorrectly scored his answer for **problem 1 in Homework Set 3**. He says that he has submitted the correct answer but it is not being marked correctly. How would you verify whether the student has submitted a correct answer?

Time limit: 5 minutes

Success criteria:

FOR BOTH OPTIONS, Click 'Navigate Contents' and navigate to Problem 1 in Homework Set 3 and click PGRD.

Option 1:

- Choose the 'Current Resource' radio button (default option).
- User can choose these drop-down menu options: 'with any status'; 'with incorrect submissions'; or 'with submissions.' Click 'Next.'
- Under 'View Answer:' choose either the 'one student' or 'all students' radio buttons.
- Under 'Submissions:' choose either the 'by dates and submissions' or 'all details' radio buttons and select the 'Jones, Jaime' check box. Click 'Next.'

Option 2:

- Choose the 'The complete set/page/sequence: For one student' radio button. Click 'Next.'
- Choose Homework Set 3 in the 'Problems from:' drop-down menu and select the 'by dates and submissions' radio button (default option) or 'all details.' Select the radio button next to 'Jones, Jaime' and click 'Next.'

Option 3:

- Click Main Menu
- Click CHRT
- Choose to view the chart with output either 'HTML with all links' or 'HTML with link'
- Choose to view all folders or Homework 3 folder
- Click on the first entry for problem 1 under Homework 3 for the Jamie Jones row.

After each lecture, you like to put your PowerPoint presentation onto LON-CAPA. How do you upload the PowerPoint slide file, **lecture3.ppt**, from the desktop of the computer, into your **Lecture Slides** folder.

Time limit: 5 minutes

Success criteria:

- Click 'Main Menu' and 'DOCS' or Click 'Course Documents.'
- Click the 'Lecture Slides' link.
- Browse for the file, give it a title, and upload it.
- NOTE: While success has been achieved after this last step, unless users click the 'Re-initialize Course' button they won't be able to see the document they have just uploaded, but students will.

You gave **Quiz 3** outside of the LON-CAPA system and now you need to upload the scores to LON-CAPA. You have already downloaded the scoring office data file, **scores.txt**, to your desktop. The scoring file contains student IDs and total quiz scores in points. How would you upload **scores.txt** to the LON-CAPA system?

Time limit: 5 minutes

Success criteria:

- Click 'Navigate Contents' or 'Course Documents.'
- Click 'Quiz Scores' and navigate to Quiz 3. Click 'PGRD.'
- Click the 'Upload scores from file' button.
- Browse for the file on the desktop. NOTE: In the drop-down menu, only 'Space separated' and 'Tabular separated' options can be chosen.
- Click 'Upload Scores.'
- Choose the correct field types and click 'Assign Grades' twice (on separate screens).

You want to decide if you need to review certain material in your next class meeting. To help you make this decision, how would you find out how many students have scored below 5 on Homework Set 2?

Time limit: 5 minutes

Success criteria:

- Click 'Main Menu' and Click 'CHRT.'
- Select options and click 'Generate Chart.'

Attachment 6 – Results by Task

TASK 1	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	yes		00:18.4
P3 - Experienced	yes		00:35.0
P5 - Experienced	no	gave up	02:36.1
P7 - Experienced	yes		00:24.1
P9 - Experienced	yes		01:21.6
P12 - Experienced	yes		01:02.2
P2 - Inexperienced	no	error	02:50.4
P4 - Inexperienced	yes		01:48.0
P6 - Inexperienced	no	gave up	06:18.2
P8 - Inexperienced	yes		02:46.5
P10 - Inexperienced	no	SYSTEM ERROR	06:38.2
P11 - Inexperienced	no	gave up	01:53.4

TASK 2	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	yes		00:48.9
P3 - Experienced	yes		00:50.1
P5 - Experienced	yes		02:26.0
P7 - Experienced	yes		00:47.9
P9 - Experienced	yes		01:21.8
P12 - Experienced	yes		00:36.4
P2 - Inexperienced	yes		04:17.3
P4 - Inexperienced	yes		06:23.5
P6 - Inexperienced	yes		04:19.7
P8 - Inexperienced	yes		08:57.3
P10 - Inexperienced	no	gave up	06:11.0
P11 - Inexperienced	yes		01:35.2

TASK 3	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	yes		00:42.1
P3 - Experienced	no	error	03:34.9
P5 - Experienced	no	gave up	05:55.9
P7 - Experienced	yes		01:06.7
P9 - Experienced	yes		05:56.3
P12 - Experienced	yes		00:29.2
P2 - Inexperienced	no	gave up	03:55.9
P4 - Inexperienced	no	gave up	05:47.9
P6 - Inexperienced	no	gave up	03:11.2
P8 - Inexperienced	no	gave up	06:39.8
P10 - Inexperienced	no	gave up	08:10.3
P11 - Inexperienced	no	gave up	03:04.3

TASK 4	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	yes		01:09.0
P3 - Experienced	no	error	00:33.6
P5 - Experienced	yes		06:30.2
P7 - Experienced	yes		00:52.9
P9 - Experienced	yes		02:13.4

P12 - Experienced	yes		01:41.5
P2 - Inexperienced	yes		02:23.5
P4 - Inexperienced	yes		06:49.1
P6 - Inexperienced	yes		06:55.2
P8 - Inexperienced	no	gave up	02:21.5
P10 - Inexperienced	yes		07:00.4
P11 - Inexperienced	no	error	03:50.1

TASK 5	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	yes		00:55.6
P3 - Experienced	yes		01:21.4
P5 - Experienced	yes		01:10.3
P7 - Experienced	yes		01:07.9
P9 - Experienced	yes		02:59.1
P12 - Experienced	yes		01:03.0
P2 - Inexperienced	yes		01:05.0
P4 - Inexperienced	no	error	06:34.0
P6 - Inexperienced	yes		07:06.1
P8 - Inexperienced	yes		03:24.6
P10 - Inexperienced	yes		02:27.5
P11 - Inexperienced	yes		02:21.2

TASK 6	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	no	gave up	02:50.2
P3 - Experienced	no	gave up	02:37.0
P5 - Experienced	no	gave up	03:23.9
P7 - Experienced	no	error	05:25.4
P9 - Experienced	no	gave up	02:16.8
P12 - Experienced	no	gave up	03:31.9
P2 - Inexperienced	no	gave up	07:45.8
P4 - Inexperienced	no	SYSTEM ERROR	04:05.8
P6 - Inexperienced	INCOMPLETE		
P8 - Inexperienced	no	gave up	10:08.6
P10 - Inexperienced	INCOMPLETE		
P11 - Inexperienced	no	gave up	04:45.3

TASK 7	Successfully Completed?	Error or Gave Up?	Time to Complete or Give Up
P1 - Experienced	yes		01:05.2
P3 - Experienced	yes		00:36.2
P5 - Experienced	yes		03:08.8
P7 - Experienced	yes		00:31.2
P9 - Experienced	yes		01:20.1
P12 - Experienced	no	gave up	03:38.6
P2 - Inexperienced	no	gave up	05:17.8
P4 - Inexperienced	INCOMPLETE		
P6 - Inexperienced	INCOMPLETE		
P8 - Inexperienced	INCOMPLETE		
P10 - Inexperienced	INCOMPLETE		
P11 - Inexperienced	yes		02:25.9

Attachment 7 – Post-study Questionnaire Results

1. How easy was viewing and hiding/deleting discussion posts?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced	n=1			n=2	n=3	4
Inexperienced	n=2	n=1	n=1	n=1	n=1	2.67
Combined	n=3	n=1	n=1	n=3	n=4	3.33

Why?

Experienced:

- P1 – Very easy – Displayed on the first screen, easy to access quickly.
- P7 – Very easy – It only involves clicking the hide button.

Inexperienced:

- P2 – Neutral – Thought it would be harder that it was, tried to make it more complicated.
- P4 – Very Easy – Choices available immediately above posting.
- P6 – Very difficult – Couldn't find out how to do it.
- P8 – Easy – The Hide button was easy to locate.
- P10 – Difficult – I missed the obvious folder—not sure why.
- P11 – Difficult – Couldn't find the posts.

2. How easy was extending due dates for homework?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced				n=6		4
Inexperienced	n=1	n=2		n=1	n=2	3.17
Combined	n=1	n=2		n=7	n=2	3.58

Why?

Experienced:

- P1 – Easy – As long as you know what parameter mode to use it is easy to use.
- P3 – Easy – I am now familiar with the “Parm” table—difficult at first.
- P7 – Easy – It only requires two steps to complete: PARM and clicking the due date to change it.

Inexperienced:

- P2 – Difficult – Not familiar with the location of options to change problem parameters.
- P4 – Very easy – Table readily accessible; very readable.
- P8 – Difficult – Grid was too large and too long. Hard to locate where to click.
- P10 – Very difficult – Did not complete—could not recognize the edit function.
- P11 – Easy – Similar to other applications in changing dates.

3. How easy was changing the weight of a homework problem?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced		n=2	n=1	n=2	n=1	3.33
Inexperienced	n=5	n=1				1.17
Combined	n=5	n=3	n=1	n=2	n=1	2.25

Why?

Experienced:

- P1 – Very easy – You can select the folder and problem quickly and view the changes made.
- P3 – Difficult – Unsure as to ID #s for problems.

Inexperienced:

- P2 – Very difficult – Did not know what the weight was or what area it would be located in (grading, individual problem??).
- P4 – Difficult – Could not distinguish between problem parameters and course parameters.
- P6 – Very difficult – Couldn't figure out how to do it—wasn't able to activate the visible weight numbers.
- P8 – Very difficult – Couldn't find where to go to edit problem text.
- P10 – Very difficult – Did not complete—could not find the correct edit function.
- P11 – Very difficult – Never figured out how to do it.

4. How easy was checking student answer submissions?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced		n=1	n=2	n=2	n=1	3.5
Inexperienced	n=1	n=1		n=3	n=1	2.67
Combined	n=1	n=2	n=2	n=5	n=2	3.42

Why?

Experienced:

- P1 – Very easy – You can just click on their submission record to view the answer.
- P3 – Neutral – The numbers don't seem to always correspond to problem #.

Inexperienced:

- P2 – Easy – Once I found you could click individual problems and obtain info. about them it became fairly self explanatory.
- P4 – Very easy – Labels clear.
- P6 – Easy – Once I read all the labels.
- P8 – Very difficult – Never did find it.
- P10 – Easy – After the above—the location of material was more obvious.
- P11 – Difficult – Not intuitive on where to find information.

5. How easy was uploading a PowerPoint presentation?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced			n=1	n=3	n=2	4.17
Inexperienced		n=1	n=1	n=3	n=1	3.67
Combined		n=1	n=2	n=6	n=3	3.92

Why?

Experienced:

- P1 – Very easy – It is like attaching a file in your e-mail; you just select from the desktop and upload.
- P3 – Easy – Don't do this, but it is easy once you know where to look.
- P7 – Neutral – Should have been easier, but I do not use the upload a file from my desktop too often. I first tried to upload a published resource.

Inexperienced:

- P2 – Easy – Located on course docs. page clearly labeled upload button made it obvious.
- P4 – Neutral – No feedback on success/failure.
- P6 – Easy – Process was easy, but I had to examine a lot of fields before figuring out how to do it.

- P8 – Difficult – Took quite awhile and once I found it checking whether it was actually loaded correctly was difficult.
- P10 – Very easy – Similar to what I did in Angel.
- P11 – Easy – Would have like to view it to verify.

6. How easy was uploading a score file?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced	n=3	n=2	n=1			1.67
Inexperienced	n=1	n=2		n=1		1.67
Combined	n=4	n=4	n=1	n=1		1.9

Why?

Experienced:

- P1 – Difficult – I am not used to doing this in my courses.
- P3 – Difficult – I don't do this and am unsure of what function to use.
- P7 – Neutral – Haven't done it for 6 months—otherwise it would have been easier.
- P9 – Very difficult – I don't know where to find it and I haven't done it before.
- P12 – Very difficult – Unclear directives.

Inexperienced:

- P2 – Difficult – Did not know where to look for grade book, never found place to upload grades as far as I am aware—no link from main menu to upload scores; unfamiliar with LON-CAPA abbreviations etc.
- P4 – Difficult – Unable to find option of uploading grades.
- P8 – Very difficult – Took very long to work my way to where it had to be entered.
- P11 – Easy – Same comment—would like to verify.

7. How easy was checking students' scores?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced		n=1	n=1	n=2	n=2	3.83
Inexperienced		n=2	n=1			2.33
Combined		n=3	n=2	n=2	n=2	3.33

Why?

Experienced:

- P1 – Very easy – You can look at averages and statistics per assignment or problem.
- P3 – Easy – Again: the attempt # on score doesn't always correspond to question #.
- P12 – Difficult – I don not know how to set weight brackets.

Inexperienced:

- P2 – Difficult – Could not find ways to obtain scores in a table of individual assignments—lack of familiarity with navigation and LON-CAPA “language.”
- P8 – Difficult – Grades was not easy to find from menus and screens.

8. Overall, how easy was it for you to use LON-CAPA?

	1 - Very Difficult	2 - Difficult	3 - Neutral	4 - Easy	5 - Very Easy	MEAN
Experienced			n=3	n=3		3.5
Inexperienced	n=1	n=4				1.8
Combined	n=1	n=4	n=3	n=3		2.73

Why?

Experienced:

- P1 – Easy – I’ve used it for about a year and a half so I’m familiar with it.
- P3 – Neutral – Haven’t tried many parts of it (grade book) initially it is fairly difficult.
- P5 – Neutral – It can be made easier.

Inexperienced:

- P2 – Difficult – Never used before today, do not know “language” of abbreviations for certain tasks.
- P6 – Difficult – Requires training in order to understand how it is organized.
- P10 – Difficult – At first—not familiar with the abbreviations on the buttons.
- P11 – Very difficult – Need a tutorial—it’s very different from other applications and not easy to interpret “Main Menu.”

Un-rated comment:

- P4 – Some tasks more straightforward than others—perhaps a matter of semantics.

9. To what extent did the features of the LON-CAPA system meet your expectations?

	1 – Not at all	2 – A Little	3 – Neutral	4 – Somewhat met	5 - Very much so	MEAN
Experienced				n=4	n=2	4.33
Inexperienced	n=1		n=2	n=3		3.17
Combined	n=1		n=2	n=7	n=2	3.75

Why?

Experienced:

- P1 – Very much so – I think it’s easy to use and works really well.
- P3 – Somewhat met – I only use it for homework problems and I really like that functionality.
- P5 – Somewhat met – It is a time saver.
- P7 – Very much so – I am currently using LON-CAPA in 2 courses so I know what to expect.

Inexperienced:

- P2 – Neutral – I had no expectations, I am familiar with what LON-CAPA is capable of, I just have never used it personally.
- P4 – Somewhat met – Nice features, just a little hard to maneuver.
- P6 – Somewhat met – Didn’t have too many expectations—I compared it to Angel’s organization.
- P8 – Not at all – Since my comparison is Angel it feel very short of my expectations.
- P10 – Neutral – Had no real expectations.
- P11 – Somewhat met – Like to see grades.

10. How easy was it to understand the way the site was organized?

	1 – Not at all	2 – Difficult	3 - Neutral	4 – Easy	5 - Very Easy	MEAN
Experienced		n=1	n=4		n=1	3.17
Inexperienced	n=1	n=2	n=2			2.2
Combined	n=1	n=3	n=6		n=1	2.73

Why?

Experienced:

- P1 – Neutral – Some of the abbreviations are unclear, and the site is not visually “pretty” like some course management systems.
- P3 – Difficult – Some of the “keys” are a little obscure.
- P5 – Neutral – It can be improved.
- P9 – Neutral – Initially difficult but not hard now that I know where to find things.

Inexperienced:

- P2 – Neutral – Some things were very clear while others a bit more vague. Course Docs and Main Menu were good starting points but some of the links off of these pages were foreign to me.
- P6 – Difficult – Drop-down menus didn’t always get me what I expected.
- P8 – Difficult – No clear main (or top) screen was apparent.
- P10 – Neutral – Got easier as went along.
- P11 – Very difficult – Main Menu didn’t easily lead me to views that would apply to “tasks.”

Un-rated comment:

- P4 – Not as clear as it could be.

11. How easy was it to navigate through the site?

	1 – Very Difficult	2 – Difficult	3 - Neutral	4 – Easy	5 - Very Easy	MEAN
Experienced			n=4	n=1	n=1	3.5
Inexperienced	n=1	n=3	n=1			2
Combined	n=1	n=3	n=5	n=1	n=1	2.55

Why?

Experienced:

- P1 – Neutral – Again, abbreviations are not always clear.
- P5 – Neutral – There is room for improvement.

Inexperienced:

- P2 – Difficult – Having never used the site I was wanting to be able to go back to the previous page which was not always possible using IE or within the system itself; unfamiliar with labeling of items.
- P6 – Difficult – Had no idea of where to start.
- P8 – Very Difficult – Labels on menu choices were unclear.
- P10 – Neutral – Difficult at first, easier as went along.
- P11 – Difficult – Kept going back to main menu—couple of times I ended up logging out unexpectedly.

Un-rated comment:

- P4 – Somewhat difficult.

12. How useful do you find the LON-CAPA system to be?

	1 – Not at all	2 – Of little use	3 – Neutral	4 – Somewhat useful	5 – Very useful	MEAN
Experienced					n=6	5
Inexperienced		n=1	n=1	n=3	n=1	3.67
Combined		n=1	n=1	n=3	n=7	4.33

Why?

Experienced:

- P1 – Very useful – We’ve been really excited about using LON-CAPA in our courses, and it has exceeded our expectations as a teaching tool.
- P3 – Very useful – For what I use it for (homework).
- P5 – Very useful – Time saver.
- P9 – Very useful – Can create homework problems for students that are all different.
- P12 – Very useful – Allows me to do many things I could not do otherwise.

Inexperienced:

- P1 – Very useful – Although I am not familiar with LON-CAPA, others have demonstrated to me what it can be used for and the variation and originality that can be obtained.
- P4 – Somewhat useful – Features excellent but not as maneuverable.
- P6 – Somewhat useful – Once I began to understand its organization—still need to have some training.
- P8 – Of little use – Other software I have used or made myself was easier.
- P10 – Somewhat useful – With some experience wouldn’t be too bad.
- P11 – Neutral – If so difficult, I’d use a shadow system for grading.

Additional Comments:

- P3, Experienced – I haven’t really tried to use a lot of the functions, so it is difficult to judge.
- P5, Experienced – Thank you for this evaluation.
- P6, Inexperienced – I believe it requires training. I didn’t see but didn’t look for a student training site.
- P7, Experienced – It would be nice to have a way to easily enter exam scores for a few students who take the course at a distance if most scores are handled via scantron.
- P12, Experienced – Chat room has never worked and automated grades.

Attachment 8 – Selected Screen Shots from the LON-CAPA System

Login Screen

LON-CAPA @MSU
The LearningOnline Network with CAPA

Accessibility Options

About LON-CAPA

User Authentication

Username:

Password:

Domain:

[Help](#)

Domain: msu
Server: msua8 (access)
Load: 1.9 percent
User Load: 15.00 percent

System Administration:
korte@lite.msu.edu

Server Administration:
raeburn@msu.edu

[Contact Helpdesk](#)
2.1.3-20060331

MICHIGAN STATE UNIVERSITY

'What's New' Screen (first screen upon log-in)

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA
---------------------------	---	-----------------------------------	----------------------------------	---------------------------------------	-----------------------	----------------------	----------

Course Action Items

Casey Rudden
 Course Coordinator
 Usability - Faculty

? [Usability - Faculty->Display Action Items](#) What's New?

Go to first resource

Page set to be displayed after you have selected a role in this course? Currently: *What's New? page (user preference)*
Change for just [this course](#) or for all your courses.

Hide all [Show all](#)

Problems requiring handgrading	Hide
<i>No problems require handgrading</i>	

Problems with errors	Hide
<i>No problems with errors</i>	

Problems with av. attempts ≥ 2 or deg. difficulty ≥ 0.5 and total number of students with submissions ≥ 2	Hide
Change thresholds?	
<i>No problems satisfy threshold criteria</i>	

Resources in course with version changes since last week	Hide
Change interval?	
<i>No updated versions since last week</i>	

Unread course discussion posts	Hide	
Change options?		
Location Type	Time of last post	Number of new posts
Quiz 1 Resource	on Wednesday, Nov 30 2005 at 02:01 pm (EDT)	1

New course messages	Hide
<i>No new course messages</i>	

New critical messages in course	Hide
<i>No unread critical messages in course</i>	

Main Menu Screen

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
---------------------------	---	-----------------------------------	----------------------------------	---------------------------------------	-----------------------	----------------------	---

<h1>Main Menu</h1>	Casey Rudden Course Coordinator Usability - Faculty
--------------------	---

ROLES	Switch to another user role
DOCS	Edit and view documents included in this course
NAV	Navigate the table of contents for this course
SPRS	Calculate course grades (Spreadsheet)
CHRT	View the course assessment progress chart
STAT	View course assessment statistics
ENRL	Manage student enrollment and groups in this course
CUSR	Create a user or modify the roles and privileges of a user
PARM	Set deadlines and other assessment parameters, as well as modify course environment
PORT	Enter my portfolio space
RES	Browse published resources
NEW	What's new?
VBKM	Use or edit my bookmark collection
CLDR	Course announcements and my calendar
COM	Send and receive messages
CHAT	Enter the chatroom for the course
SRCH	Search the database of published resources
PREF	Set my user preferences
EXIT	Exit LON-CAPA

Navigate Contents Screen

Main Menu [Return to Last Location](#) [Navigate Contents](#) [Course Documents](#) [Launch Remote Control](#) [Roles](#) [Exit](#) **LON-CAPA** 

Navigate Course Contents

Casey Rudden
Course Coordinator
Usability - Faculty

 

-  Syllabus
-  Homework Set 1
-  Homework Set 2
-  Homework Set 3
-  Lecture Slides
-  Quiz Scores

Course Documents Screen

[Main Menu](#)
[Return to Last Location](#)
[Navigate Contents](#)
[Course Documents](#)
[Launch Remote Control](#)
[Roles](#)
[Exit](#)
LON-CAPA


Course Documents
Casey Rudden
Course Coordinator
Usability - Faculty

[Verify Content](#)
[Check/Set Resource Versions](#)
[Dump Course DOCS to Construction Space: available on other servers](#)
[Export Course to IMS](#)

[Editing the Table of Contents for your Course](#)

Main Course Documents

↑ ↓ (1)	Remove Cut Rename Copy	 Syllabus	<input type="checkbox"/> Hidden	<input type="checkbox"/> URL hidden	
↑ ↓ (2)	Remove Cut Rename Copy	 Homework Set 1	<input type="checkbox"/> Hidden	<input type="checkbox"/> URL hidden	Randomly Pick: <input type="text"/> Store
↑ ↓ (3)	Remove Cut Rename Copy	 Homework Set 2	<input type="checkbox"/> Hidden	<input type="checkbox"/> URL hidden	Randomly Pick: <input type="text"/> Store
↑ ↓ (4)	Remove Cut Rename Copy	 Homework Set 3	<input type="checkbox"/> Hidden	<input type="checkbox"/> URL hidden	Randomly Pick: <input type="text"/> Store
↑ ↓ (5)	Remove Cut Rename Copy	 Lecture Slides	<input type="checkbox"/> Hidden	<input type="checkbox"/> URL hidden	Randomly Pick: <input type="text"/> Store
↑ ↓ (6)	Remove Cut Rename Copy	 Quiz Scores	<input type="checkbox"/> Hidden	<input type="checkbox"/> URL hidden	Randomly Pick: <input type="text"/> Store

Upload a new main course document

File: [Browse...](#)

Title:

If HTML file, upload embedded images/multimedia files?

[Upload Document](#)

Import a document

Published documents
[Search](#) [Import](#)

All documents out of a published map into this folder

[Select Map](#) [Load Map](#)

[Recover Deleted Resources](#)

[External Resource](#)

Special documents

[New Folder](#)

[New Composite Page](#)

[Syllabus](#)

[Navigate Contents](#)

[Simple Page](#)

[Simple Problem](#)

[Score Upload Form](#)

[Bulletin Board](#)

[My Personal Info](#)

Course Documents Screen Cont.

(5) Remove Cut Rename Copy		Lecture Slides <input type="checkbox"/> Hidden <input type="checkbox"/> URL hidden Randomly Pick: <input type="text"/> Store
(6) Remove Cut Rename Copy		Quiz Scores <input type="checkbox"/> Hidden <input type="checkbox"/> URL hidden Randomly Pick: <input type="text"/> Store

Upload a new main course document	Import a document	Special documents
File: <input type="text"/> Browse... Title: <input type="text"/> If HTML file, upload embedded images/multimedia files? <input type="checkbox"/> Upload Document ?	Published documents Search Import ? <hr/> All documents out of a published map into this folder <input type="text"/> Select Map Load Map ? <hr/> Recover Deleted Resources <hr/> External Resource ? Import IMS package	New Folder ? New Composite Page ? <hr/> Syllabus ? Navigate Contents ? Simple Page ? Simple Problem ? Score Upload Form ? Bulletin Board ? My Personal Info ? About User

Supplemental Course Documents

Currently no documents.

Upload a new supplemental course document	Special documents
<input type="text"/> Browse... If HTML file, upload embedded images/multimedia files? <input type="checkbox"/> Comment: <input type="text"/> Upload Document ?	New Folder ? External Resource ? <hr/> Syllabus ? My Personal Info ?

Parameter Manager (PPRM)

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
---------------------------	---	-----------------------------------	----------------------------------	---------------------------------------	-----------------------	----------------------	---

Parameter Manager

Casey Rudden
Course Coordinator
Usability - Faculty

[Usability - Faculty->Parameter Manager](#) Parameter Manager

- [Set Course Environment Parameters](#)
- [Set Portfolio Metadata](#)
- [Manage Course Slots](#)

- [Set/Modify Resource Parameters - Helper Mode](#)
- [Modify Resource Parameters - Overview Mode](#)
- [Set Resource Parameters - Overview Mode](#)
- [Set/Modify Resource Parameters - Table Mode ?](#)
- [Set Parameter Setting Default Actions](#)

Course Parameter Helper (First Page)

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
---------------------------	---	-----------------------------------	----------------------------------	---------------------------------------	-----------------------	----------------------	--

Course Parameter Helper

Casey Rudden
Course Coordinator
Usability - Faculty

Welcome to the Assignment Parameter Helper

This helper will assist you in **setting the open, due, and answer dates** for problems, **setting the problem weights**, or in **setting the number of tries** for problems. [<- Previous](#) [Next ->](#)

You will be asked to **select which problems** you wish to set the parameters for, then **what parameter** you wish to set, then you will select **whom the setting affects**.

After the helper is done, you will be shown where in the advanced interface you would have gone to set the parameter you have chosen, so in the future you can do it directly.

Press **Next ->** to begin, or select **<- Previous** to go back to the previous screen. [<- Previous](#) [Next ->](#)

Modify Parameters – Overview Mode (First Page)

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
---------------------------	---	-----------------------------------	----------------------------------	---------------------------------------	-----------------------	----------------------	---

Modify Parameters

Casey Rudden
Course Coordinator
Usability - Faculty

[Usability - Faculty->Parameter Manager->Overview Mode](#) **Overview**

- Sort by realm first, then student (group/section)
- Sort by student (group/section) first, then realm

All Resources

All Students

Part: 0

Parameter	Delete	Set to ...								
opendate:	<input type="checkbox"/>	May	8	2006	8 am	0	m	0	s	Select Date

Folder/Map: Homework Set 2

(uploaded/msu/2782662cb6b43e9msul1/default_1133375443.sequence)

All Students

Part: 0

Parameter	Delete	Set to ...								
duedate:	<input type="checkbox"/>	June	1	2006	5 pm	0	m	0	s	Select Date

Folder/Map: Homework Set 3

(uploaded/msu/2782662cb6b43e9msul1/default_1133375448.sequence)

Modify Parameters – Overview Mode (First Page) Cont.

Folder/Map: Homework Set 3

(uploaded/msu/2782662cb6b43e9msul1/default_1133375448.sequence)

All Students

Part 0

Parameter	Delete	Set to ...								
opendate:	<input type="checkbox"/>	May	10	2006	12 am	0	m	1	s	Select Date
duedate:	<input type="checkbox"/>	June	1	2006	5 pm	0	m	0	s	Select Date

Resource: msu-prob05.problem

(msu/physicstib/msuphysicstib/01_Math_1/msu-prob05.problem in uploaded/msu/2782662cb6b43e9msul1/default_1133375448.sequence id: 4)

All Students

Part 0

Parameter	Delete	Set to ...
weight:	<input type="checkbox"/>	2

Folder/Map: Quiz Scores

(uploaded/msu/2782662cb6b43e9msul1/default_1133375482.sequence)

All Students

Part 0

Parameter	Delete	Set to ...
weight:	<input type="checkbox"/>	10

Modify Parameters

Set Parameters – Overview Mode (First Page)

Main Menu
Return to Last Location
Navigate Contents
Course Documents
Launch Remote Control
Roles
Exit
LON-CAPA

Set Parameters

Casey Rudden
 Course Coordinator
 Usability - Faculty

Usability - Faculty->Parameter Manager->Overview Mode
Overview

Select Parameter Level ? | Map/Folder Level | Select Enclosing Map or Folder | All Maps or Folders

<input type="checkbox"/> Problem Opening Date	<input type="checkbox"/> Problem Due Date	<input type="checkbox"/> Problem Answer Date
<input type="checkbox"/> Time-Limit	<input type="checkbox"/> Weight	<input type="checkbox"/> Maximum Number of Tries
<input type="checkbox"/> Number of Tries before hints appear	<input type="checkbox"/> Content Opening Date	<input type="checkbox"/> Content Close Date
<input type="checkbox"/> Question Type	<input type="checkbox"/> Show Problem Status	<input type="checkbox"/> Resource hidden from students
<input type="checkbox"/> List of hidden parts	<input type="checkbox"/> Part Description	<input type="checkbox"/> Show Parts One-at-a-Time
<input type="checkbox"/> Numerical Tolerance	<input type="checkbox"/> Significant Digits	<input type="checkbox"/> Show Units - Disable Entry
<input type="checkbox"/> Discussion End Time	<input type="checkbox"/> Hide Closed Discussion	<input type="checkbox"/> Do not show plain URL
<input type="checkbox"/> Resource alias name for conditions	<input type="checkbox"/> Randomly pick number of resources	<input type="checkbox"/> Slots of availability
<input type="checkbox"/> Use slot based access controls	<input type="checkbox"/> Client IP/Name Access Control	<input type="checkbox"/> Slots of availability selected by student
<input type="checkbox"/> Number of bubbles in exam mode	<input type="checkbox"/> Hand Grade	<input type="checkbox"/> Format for display of score

[Select All](#) [Add Problem Dates](#) [Add Content Dates](#)
[Select Common Only](#) [Add Discussion Settings](#) [Add Visibilities](#) [Unselect All](#)
[Add Part Parameters](#)

All Parts	all
Part 0	099
Part 0_11	1
Part 0_13	2
Part 0_score	99
Part 11	
Part 11_12	
Part 13	

Sort by realm first, then student (group/section)
 Sort by student (group/section) first, then realm

Display

Set/Modify Course Parameters – Table Mode

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
<h1>Set/Modify Course Parameters</h1>						Casey Rudden Course Coordinator Usability - Faculty	
Usability - Faculty->Parameter Manager->Table Mode						Table Mode Parameter Setting	
Select Parameter Level  ? <input type="text" value="Map/Folder Level"/>		Select Enclosing Map or Folder		<input type="text" value="All Maps or Folders"/>			
Select Parameters to View						Select Parts to View	
<input checked="" type="checkbox"/> Problem Opening Date <input type="checkbox"/> Time-Limit <input type="checkbox"/> Number of Tries before hints appear <input type="checkbox"/> Question Type <input type="checkbox"/> List of hidden parts <input type="checkbox"/> Numerical Tolerance <input type="checkbox"/> Discussion End Time <input type="checkbox"/> Resource alias name for conditions <input type="checkbox"/> Use slot based access controls <input type="checkbox"/> Number of bubbles in exam mode		<input checked="" type="checkbox"/> Problem Due Date <input checked="" type="checkbox"/> Weight <input type="checkbox"/> Content Opening Date <input type="checkbox"/> Show Problem Status <input type="checkbox"/> Part Description <input type="checkbox"/> Significant Digits <input type="checkbox"/> Hide Closed Discussion <input type="checkbox"/> Randomly pick number of resources <input type="checkbox"/> Client IP/Name Access Control <input type="checkbox"/> Hand Grade		<input checked="" type="checkbox"/> Problem Answer Date <input checked="" type="checkbox"/> Maximum Number of Tries <input type="checkbox"/> Content Close Date <input type="checkbox"/> Resource hidden from students <input type="checkbox"/> Show Parts One-at-a-Time <input type="checkbox"/> Show Units - Disable Entry <input type="checkbox"/> Do not show plain URL <input type="checkbox"/> Slots of availability <input type="checkbox"/> Slots of availability selected by student <input type="checkbox"/> Format for display of score		<input type="text" value="All Parts"/> <input type="text" value="Part 0"/> <input type="text" value="Part 0_11"/> <input type="text" value="Part 0_13"/> <input type="text" value="Part 0_score"/> <input type="text" value="Part 11"/> <input type="text" value="Part 11_12"/> <input type="text" value="Part 13"/>	
Select All Select Common Only		Add Problem Dates Add Content Dates Add Discussion Settings Add Visibilities Unselect All Add Part Parameters					
Section/Group: <input type="text"/>		For User <input type="text"/> or ID <input type="text"/> at Domain <input type="text" value="msu"/> Select User					
<input type="button" value="Update Parameter Display"/>							

Set/Modify Course Parameters – Parameter Manger (PPRM Table)

[Main Menu](#)
[Return to Last Location](#)
[Navigate Contents](#)
[Course Documents](#)
[Launch Remote Control](#)
[Roles](#)
[Exit](#)
LON-CAPA


Set/Modify Course Parameters

Casey Rudden
Course Coordinator
Usability - Faculty

Usability - Faculty->Parameter Manager Table Mode Parameter Setting

Specific Resource: msu/physicslib/msuphysicslib/05_ID_Motion/msu-prob38.problem

Show all parts:

Section/Group:

For User or ID at Domain [Select User](#)

Assessment URL and Title	Type	Enclosing Map or Folder	Part	Parameter Name	Any User					Parameter in Effect	Current Session Value (ruddenca at msu)
					in Course		Resource Level		in Course		
					general	for Enclosing Map or Folder	default	from Enclosing Map or Folder	for Resource		
			0	Problem Opening Date [Part: 0] (opendate)	<u>Mon May 8 08:00:00 2006</u>	<u>Wed May 10 00:00:01 2006</u>			-	Wed May 10 00:00:01 2006	Wed May 10 00:00:01 2006
			0	Problem Due Date [Part: 0] (duedate)	-	<u>Thu Jun 1 17:00:00 2006</u>			-	Thu Jun 1 17:00:00 2006	Thu Jun 1 17:00:00 2006
			0	Problem Answer Date [Part: 0] (answerdate)	-	-			-		
			0	Time-Limit [Part: 0] (interval)	-	-			-		
			0	Weight [Part: 0] (weight)	-	-			-		1

Set/Modify Course Parameters – Parameter Manger (PPRM Table) Cont.

msu / physicslib / msuphysicslib / 05_ID_Motion / msu-prob38.problem <u>One-</u> <u>dimensional</u> <u>motion</u>	problem	Homework Set 3	0] (interval)	-	-			-		
			0 Weight [Part: 0] (weight)	-	-			-		1
			0 Maximum Number of Tries [Part: 0] (maxtries)	-	-			-		99
			0 Number of Tries before hints appear [Part: 0] (hintries)	-	-			-		1
			0 Question Type [Part: 0] (type)	-	-			-		
			0 Show Problem Status [Part: 0] (problemstatus)	-	-			-		yes
			0 Resource hidden from students [Part: 0] (hiddenresource)	-	-			-		
			0 List of hidden parts [Part: 0] (hiddenparts)	-	-			-		
			0 Part Description [Part: 0] (display)	-	-			-		
			0 Show Parts One-at-a-Time [Part: 0] (ordered)	-	-			-		no
			0 Numerical Tolerance [Part: 0] (tol)	-	-			-		5%
			0 Significant Figures [Part: 0] (sig)	-	-			-		
			0 Show Units - Disable Entry [Part: 0] (turnoffunit)	-	-			-		no
			0 Discussion End Time [Part: 0]	-	-			-		

Set/Modify Course Parameters – Parameter Manger (PPRM Table) Cont.

motion	0	Tolerance [Part: 0] (tol)	-	-			-		no
	0	Significant Figures [Part: 0] (sig)	-	-			-		
	0	Show Units - Disable Entry [Part: 0] (turnoffunit)	-	-			-		no
	0	Discussion End Time [Part: 0] (discussend)	-	-			-		
	0	Hide Closed Discussion [Part: 0] (discushide)	-	-			-		no
	0	Do not show plain URL [Part: 0] (encrypturl)	-	-			-		
	0	Resource alias name for conditions [Part: 0] (mapalias)	-	-			-		
	0	Slots of availability [Part: 0] (available)	-	-			-		
	0	Use slot based access controls [Part: 0] (useslots)	-	-			-		no
	0	Client IP/Name Access Control [Part: 0] (acc)	-	-			-		
	0	Slots of availability selected by student [Part: 0] (availablestudent)	-	-			-		
	0	Number of bubbles in exam mode [Part: 0] (numbubbles)	-	-			-		8

Grading Screen (PGRD-First Page)

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
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Grading

Casey Rudden
Course Coordinator
Usability - Faculty

Manual Grading/View Submission

Current Resource: One-dimensional motion
Part: 0 11 **Type:** numerical

Select a Grading/Viewing Option

Select Section: <input type="text" value="all"/>	Student Status: <input type="text" value="Currently Enrolled"/>	<input type="button" value="Upload"/> scores from file
<input checked="" type="radio"/> Current Resource: For one or more students <input type="text" value="with any status"/>		<input type="button" value="Grade"/> scantron forms
<input type="radio"/> Current Resource: For all students in selected section or course		<input type="button" value="Verify"/> receipt: 157- <input type="text"/>
<input type="radio"/> The complete set/page/sequence: For one student		<input type="button" value="Manage"/> access times.
<input type="button" value="Next->"/>		<input type="button" value="View"/> saved CODEs.

Grades Spreadsheet (SPRS-Generate Spreadsheet View)

Main Menu	Return to Last Location	Navigate Contents	Course Documents	Launch Remote Control	Roles	Exit	LON-CAPA 
<h1>Grades Spreadsheet</h1>						Casey Rudden Course Coordinator Usability - Faculty	
Usability - Faculty > Spreadsheet Spreadsheet							
Sections	Enrollment Status	Output Format	Load: <input type="text" value="Default"/> Select Spreadsheet File		Save as: <input type="text" value="default_classcalc"/>		
<input type="text" value="all"/> <input type="text" value="099"/> <input type="text" value="1"/>	<input type="text" value="Currently Enrolled"/> <input type="text" value="Previously Enrolled"/> <input type="text" value="Any Enrollment Status"/>	<input type="text" value="HTML"/> <input type="text" value="Excel"/> <input type="text" value="Comma Separated Values"/>	<input type="text" value="Default"/>		<input type="button" value="Save as & Make This S"/>		
Status: <input type="text"/>							
<input type="button" value="Generate Spreadsheet"/>		Spreadsheet Help ?		Editing Help ?			

Grades Spreadsheet (SPRS-Generate Spreadsheet View) Cont. HORIZONTALLY

[Last Location](#) [Navigate Contents](#) [Course Documents](#) [Launch Remote Control](#) [Roles](#) [Exit](#) **LON-CAPA** 

Spreadsheet

Casey Rudden
Course Coordinator
Usability - Faculty

Spreadsheet

Output Format

HTML	Load: Default	Select Spreadsheet File	Save as default_classcalc
Excel	Default		Save as & Make This Sheet the Default
Comma Separated Values			

[Spreadsheet Help ?](#) [Editing Help ?](#)

Course Statistics and Charts (CHRT- Generate Chart View)

Main Menu Return to Last Location Navigate Contents Course Documents Launch Remote Control Roles Exit LON-CAPA 

Course Statistics and Charts

Casey Rudden
Course Coordinator
Usability - Faculty

[Usability - Faculty](#) > **Chart**

Sections	Student Data	Enrollment Status	Sequences and Folders	Output Format ?	Output Data ?
all 099 1 2 99	all fullname username domain id	Currently Enrolled Previously Enrolled Any Enrollment Status	all Homework Set 1 Homework Set 2 Homework Set 3 Quiz Scores	HTML, with links HTML, with all links HTML, without links Excel CSV	Scores Summary Scores Per Problem Tries Parts Correct

Generate Chart Select One Student Clear Caches Status