Usability Testing Report – HE Portal Theme

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OVERVIEW

The objectives of this study were:
1. investigate usability issues in the live CourseCompass portal
2. test the portal theme elements with instructors and students, and gather user feedback for the next round of design iteration

The study was conducted remotely at Pearson Usability Lab by Enlie Wang, Stuart Ough and Heather Johnstone between February 24, 2010 and March 9, 2010. The test plan and test scripts were developed by Enlie Wang and Stuart Ough (see Appendix A, Test Plan). Craig Marcus developed the click-through prototype for this study. All sessions were recorded using TechSmith's UserVUE.

MAJOR FINDINGS

- The live CourseCompass portal (instructor version) has some usability issues and performance issues.
- All the participants liked the portlet design. Participants thought the new portal prototype represents an improvement over the CourseCompass portal.
- Participants preferred two-column portal page over the three-column portal page.
- Use lightbox to display license agreement and privacy policy information; use pop-up window to display help information.
- Instructor preferred to use Log in/Log Out, but students preferred to use Sign In/Sign Out
- Edit is the most important portlet property rated by both instructors and students
- Participants found that the MyPlaces title is very confusing. It should be replaced by resources and tools.
- Majority of the participants expected to see system level announcements in the Announcements portlet
- Most instructors were fine with tabbed version   (4 out of 7), while majority of the students (6 out of 8) would like to use non-tabbed version
- New book edition information should be placed in the announcement portlet
- "Magnifying glass" icon is very confusing
- Mouse-over text is very helpful
- The breadcrumb trail needs to be more visible
- Fewer portlets on the portal page is preferred (only show the essential ones by default)
- Portal customization is very desirable

Please see the "Findings" section of the full report for details and recommendations on these and other issues.

What Happened During the Usability Testing

The usability test was conducted remotely at Pearson Usability Lab by Enlie Wang, Stuart Ough and Heather Johnstone between February 24, 2010 and March 9, 2010. The test plan and test scripts were developed by Enlie Wang and Stuart Ough (see Appendix A, Test Plan). Craig Marcus developed the click-through prototype for this study. All sessions were recorded using TechSmith's UserVUE.

Each test session lasted approximately sixty (60) minutes. Prior to beginning the test, each participant was asked to sign the digital waiver form and fill out a short profile survey.

Who We Tested

Seven (7) instructors and eight (8) students participated in this study.

	Instructors	Students
Age	Average = 46 years Standard Deviation = 12.4 years	Average = 21.5 years Standard Deviation = 3.1 years
Gender	Male = 3 (42.9%) Female = 4 (57.1%)	Male = 4 (50%) Female = 4 (50%)
Discipline	Biology = 3 Education =1 Economics =3	Biology = 3 Educational Technology =1 Computer Science =2 Mathematics = 1 Rehabilitation Science =1
Computer Experience	Years of usage = 23 years Daily usage = 8.1 hours	Years of usage = 10.8 years Daily usage = 5.3 hours
Primary Operating System	Windows = 5 (71.4%) Mac = 2 (28.6%)	Windows = 7(87.5%) Mac & Windows = 1 (12.5%)
Preferred Web Browser	Firefox = 5 IE = 2	Firefox = 3 IE = 3 Chrome = 2
Technology Skill Self-rating (1-10)	Average = 8 Standard Deviation = 1.6	Average = 7.1 Standard Deviation = 2
Tried Web Portal Before	Yes = 5 (71.4%) No = 2 (28.6%)	Yes = 6 (75%) No = 2 (25%)
Tried CourseCompass Portal Before	Yes = 4 (42.9%) No = 3 (57.1%)	Yes = 1 (12.5%) No = 7 (87.5%)

Participants were invited during the two weeks prior to the testing. They were asked to sign up a testing session using our online self-registration site (Powered by Genbook.com).

The instructors received a $50 gift card for their time, and students received a $25 gift card for their time.

What We Tested

The scope of the testing focused on theme elements of the next generation portal. The Live portal was also tested to serve as a benchmark point. Two portal design prototypes (three-column vs. two-column) were tested in this study.

What Participants Did

During the study, each participant was asked to complete the following tasks:
- Evaluate three-column prototype
- Evaluate Two-column prototype
- Perform live tasks

Task order was balanced to eliminate order effect. Directed questions were asked for each task throughout the test, according to the Test Plan, to elicit further details or comments.

Data Collected

All the testing session were recorded by UserVUE for later review. These recordings (in WMV format) are available on the Pearson User Experience Group web site:

http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/index.html

All data collected was qualitative in nature as the test was exploratory of design concepts and conducted on static screen samples.

Testing Environment

All sessions were conducted remotely. The facilitator was located in the Pearson Usability Lab (room 3006) in Indianapolis, IN. The participants were allowed to join from any location that had a computer with a high-speed Internet connection and a telephone. Observers were located in their respective offices and able to participate remotely via the UserVue software and telephone.

Figure 1: Lab Setting

Findings from Live HE Portal

Perceived Usability

SUS survey was administrated after each participant completed tasks on the live CourseCompass portal.

Finding:
- The results indicate that the student portal was perceived to be more user-friendly (usable) than the instructor portal. Instructors thought the live portal is just ok, but the students thought it is good.

The following is a summary of SUS scores rated by participants.

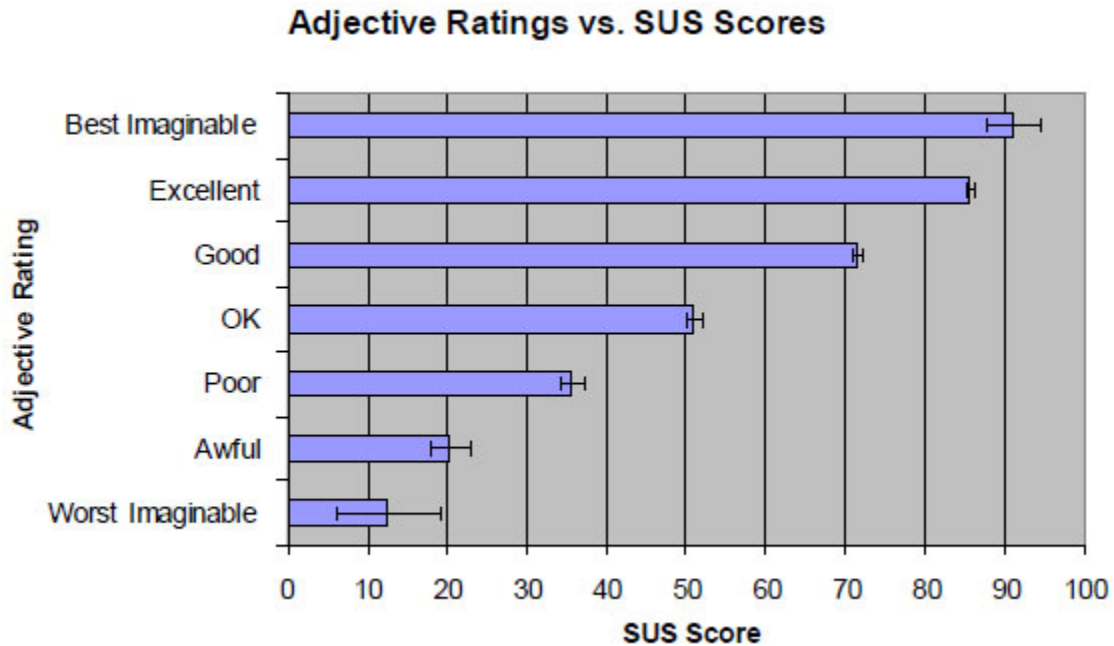| Portal version	# of Participants	SUS score	Standard deviation	Equivalent rating
Instructor	7	67.9	21.7	OK
Student	8	75.6	15.3	Good

Adjective Ratings vs. SUS Scores

Figure 2: SUS score ratings & the seven adjective ratings

Recommendations:
- Direct more effort and resource to re-design the portal for instructors.
- Focus on the user scenario that one instructor has multiple courses and multiple Pearson product subscriptions.

Overall Look and Feel

After viewing the live portal page for approximately 10 seconds, participants were asked to rate the overall look and feel using a scale of 1 to 10 (with a 10 being the highest).

Finding:
- Instructors rated overall look and feel of the portal prototypes 5.4 out of 10
- Students rated it 7.3 out of 10.

The following is a summary of participants' comments regarding the overall look and feel.

Initial reactions from instructors	Initial reactions from students
busy	organized, simple, clean, modern
(a lot going on) busy	confused, not sure what I was looking at
busy, elegant	boring, prioritizing, confusing, why is announcements in the center
busy	busy
busy,confused	modern, confused, inviting
busy, unlabeled	modern
inviting, eye appealing	busy, modern, confused
	elegant, modern, busy

Recommendations:
- Simplify the portal page by using better information organization and visualization

Task Performance

Participants were asked to perform a few tasks on the live CourseCompass portal. We collected their task completion time and error rates.

Finding:
- Instructors did not perform well in some tasks. For example, hide a course and re-arrange courses.
- Students could use the portal very well
- It takes too much time to load the products in Myplaces section if the instructor has access to many Pearson products.

The following is a summary of failure/success rates by instructors

Instructor tasks	N	Failed	Completed without error	Completed with error
Task 1: Find and open the License Agreement	7	28.6%	57.1%	14.3%
Task 2: Find and open the class called "Prod Testing Course2	7	0%	100%	0%
Task3: Move "Prod testing Course1" to the top of the list	7	28.6%	28.6%	42.9%
Task4: Hide the Beginning Algebra course	7	42.9%	42.9%	14.3%
Task5: Find the TestGen Information	7	42.9%	42.9%	14.3%
Task 6: Show/hide Announcements	7	14.3%	85.6%	0%

The following is a summary of task performance by instructors

Instructor tasks	N	Average ToT (s)	Standard Deviation (s)
Task 1: Find and open the License Agreement	5	14.6	18.6
Task 2: Find and open the class called "Prod Testing Course2	7	3.0	1.9
Task3: Move "Prod testing Course1" to the top of the list	6	68.8	65.6
Task4: Hide the Beginning Algebra course	4	27.8	12.1
Task5: Find the TestGen Information	4	14.8	15.5
Task 6: Show/hide Announcements	6	17.2	6.6

The following is a summary of failure/success rates by students

Student tasks	N	Failed	Completed without error	Completed with error
Task 1: Find and open the License Agreement	8	0%	0%	100%
Task 2: Find and open the class called "Prod Testing Course2	8	0%	87.5%	12.5%
Task3: Access to another Pearson textbook – Personal Finance (3rd Edition)	8	0%	75%	25%

The following is a summary of task performance by students

Student tasks	N	Average ToT (s)	Standard Deviation (s)
Task 1: Find and open the License Agreement	8	5.8	4.7
Task 2: Find and open the class called "Prod Testing Course2	8	5.0	2.7
Task3: Access to another Pearson textbook – Personal Finance (3rd Edition)	8	9.9	9.6

Recommendations:
- Re-design instructor portal
- Fix the performance issue as soon as possible. Excessive delays will make the portal unusable, and deteriorate perceived usability of the portal.

Findings from New Prototypes

Overall Look and Feel

After viewing the portal homepage prototype for approximately 10 seconds, participants were asked to rate the overall look and feel using a scale of 1 to 10 (with a 10 being the highest).

Finding:
- Instructors rated overall look and feel of the portal prototypes 7.9 out of 10; while students rated it 7.8 out of 10. All of them liked the new design prototype.

The following is a summary of comments from participants.

| Comments from instructors	Comments from students
looks similar to the MasterBiology homepage	The boxes are helpful. Reminds me of blackboard that we use here. Likes the "Important Notice" area. Colors are nice. Well organized.
nice and clean, a bit busy (looked at MyCourses on the left, and noticed the important notice on the top)	useful for class
like it	chunked for organization, eye goes to the widget headers, clean
Pretty nice, clean, what is "MyPlaces"?	like the layout, MyCourses is easy to find, no idea what would be in MyPlaces.
Works fine	little less modern, but easier, likes the Tools, likes announcements being right there
Better than the live one	better than the other one (live site), lot going on though
Different from the old design, positive, like it	Likes it. Looks uniform. Easier to understand.
	Likes minimalist look. Surprised by all the information. A lot going on. Nice colors.

Overall look and feel (prototype vs. live)
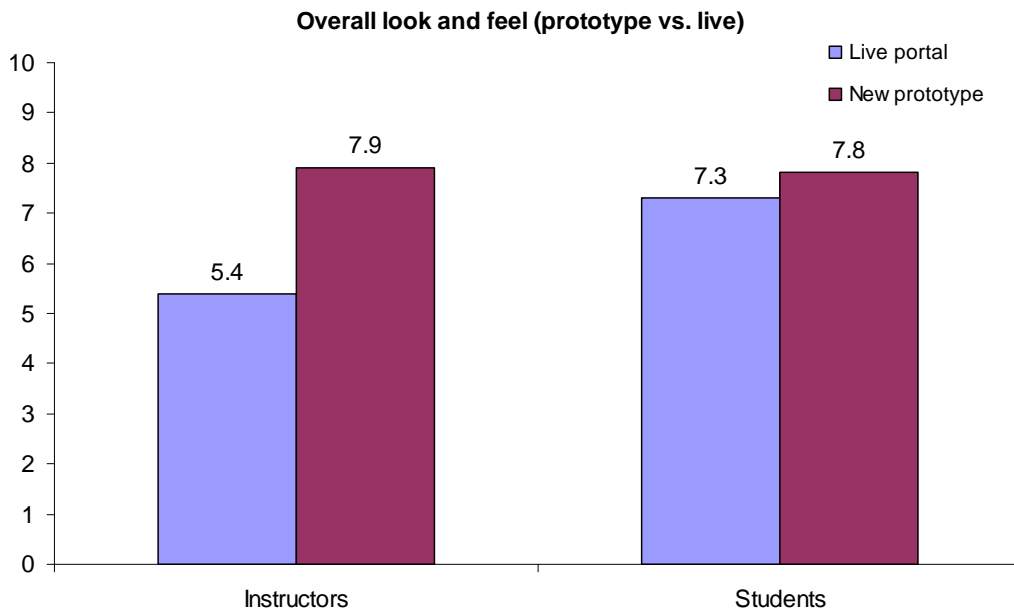
Figure 3: Look and Feel Comparison (prototype vs. live)

Importance Notice

Participants evaluated the location and format of system message during the testing session.

Finding:

- Only one instructor missed the important notice when they saw the portal page for the very first time. She usually receives this type of message via email.
- All the participants (7 instructors and 8 students) agreed that the top screen is the best location for this type of message.
- They all knew how to dismiss the importance notice (by clicking the "X" button)
- All the students expected to retrieve the dismissed notice in the Announcements portlet. However, only 4 instructors expected to find it again in the Announcements portlet. The other three pointed wrong places (back button, Need help?, or myPearson logo)
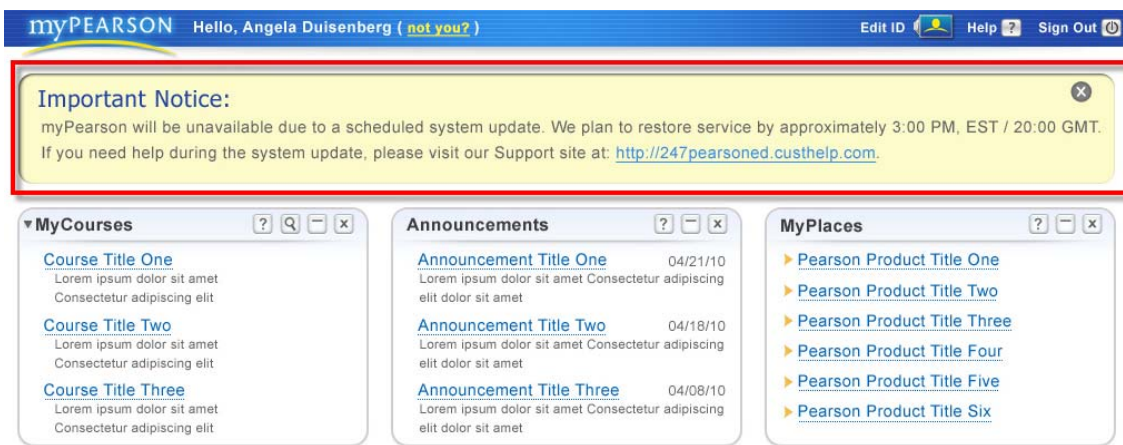

Figure 4: Important Notice

Two-column vs. Three-column

The Facilitator walked participants through two new portal prototypes (two-column design and three-column design) during their testing sessions.

Finding:
- Majority of the instructors and students (over 85%) preferred two-column portal design over the three-column portal.
- Three-column layout makes portal page look busy and cluttered. Participants were not sure where they should start with.
- Participants expected the help links and portal options to be placed in a fixed location; and they should be separated from the main portlets (just like the two-column does).

The following is a summary of participant preference on portal layout.

Prototype version	Number of favorite votes by instructors	Number of favorite votes by students
Two-column Portal	6 (85.7%)	7 (87.5%)
Three-column Portal	1 (14.3%)	1 (12.5%)

Recommendations:
- Use two-column layout for the new portal design
- Only show essential portlets by default

Log in vs. Sign in

Participants were asked about their label preference for the "Login" button.
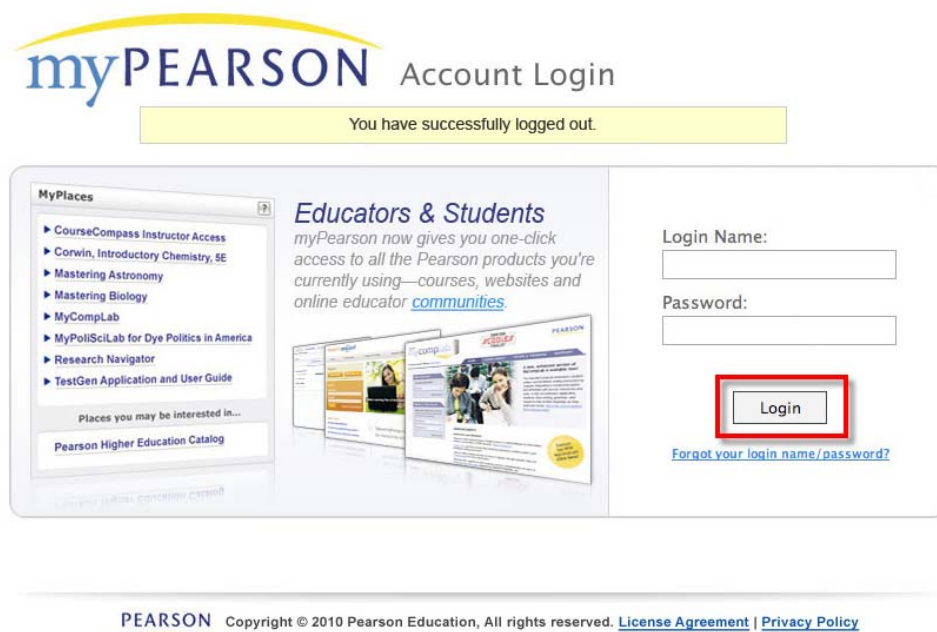

Figure 5: The "Login" button

Finding:
- Instructors preferred to use "Log in" label, but students preferred to use "Sign in" label.

- In fact, they are fine with both terms

The following is a summary of participant preference on the "Login" button label.

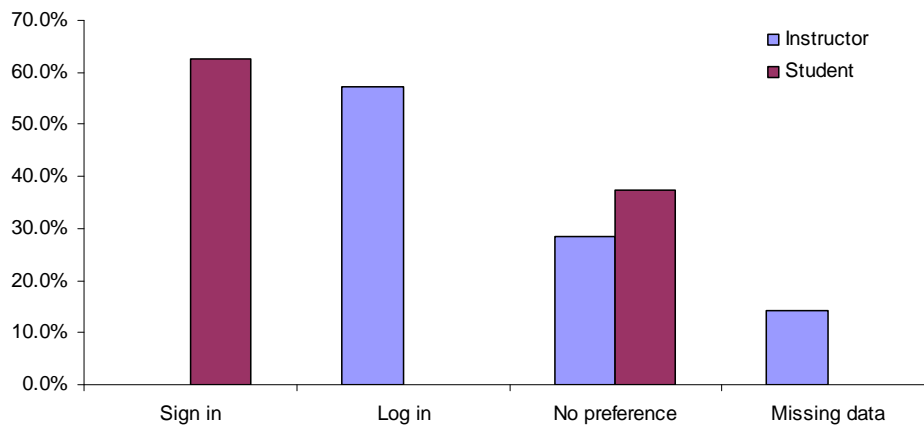| Label	Number of favorite votes by instructors	Number of favorite votes by students
Sign in	0 (0%)	5 (62.5%)
Log in	4 (57.1%)	0 (0%)
No preference	2 (28.6%)	3 (37.5%)
Missing date	**1 (14.3%)**	

Log in vs. Sign in

Figure 6: Label Preference for the "Login" Button

Recommendations:
- Consider to use "log in"

Log out vs. Sign out

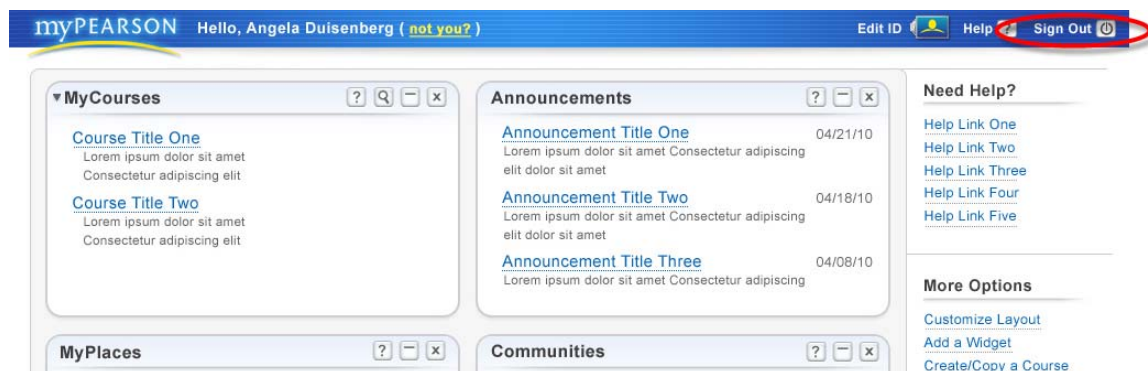Participants were asked about their label preference for the "sign out" button.

Figure 7: The "Sign Out" Button

Finding:

- Instructors preferred to use "Log Out" label, but students preferred to use "Sign Out" label.
- In fact, they are fine with both terms

The following is a summary of participant preference on the "Sign Out" button label.

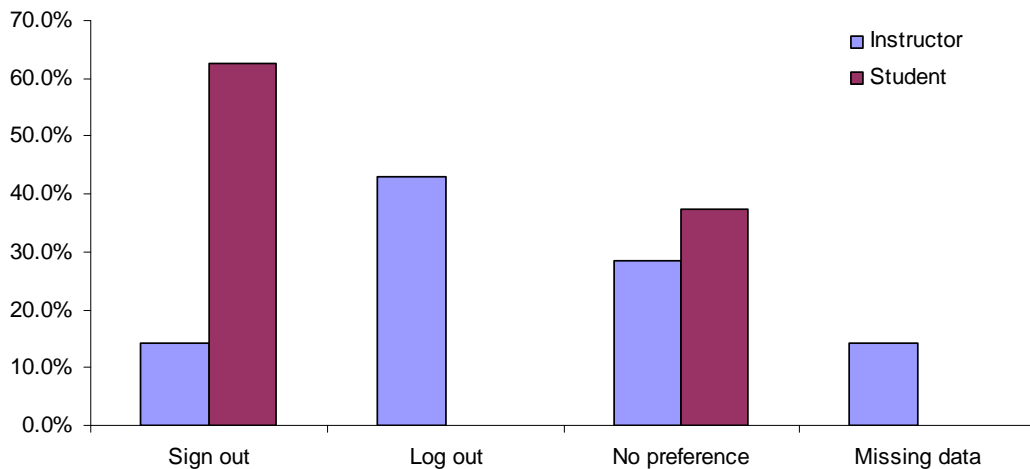| Label	Number of favorite votes by instructors	Number of favorite votes by students
Sign out	1 (14.3%)	5 (62.5%)
Log out	3 (42.9%)	0 (0%)
No preference	2 (28.6%)	3 (37.5%)
Missing date	**1 (14.3%)**	

Log out vs. Sign out

Figure 8: Label Preference for the "Sign Out" Button

Recommendations:
- Consider to use "Log Out"
- Make sure use consistent labels (sign in/sign out; log in/log out)

"Not you?" and "Sign Out"

We tested the meaning of "Not you?" and "Sign Out" with the participants to see if they can differentiate them.

Figure 9: "Not you?" and "Sign Out"

Finding:
- All the participants could clearly differentiate them.
- They all agreed that it is necessary to have both option available in the portal header.

Recommendations:
- Keep both items in the portal header

Portlet Design

Participants were asked to evaluate portlet design during the testing session.

Finding:
- All the participants including students and instructors thought the portlet design was a great idea to organize information.

The following is a summary of comments from the participants.

Student comments	Instructor comments
Positive. Well organized, easy to navigate.	nice tool for organizing information in groups
useful, layout how you want to	It's fine, straightforward
Good idea. Keeps info organized. Don't overlap content between them. Noticed and likes the widget close/minimize feature.	
I like it.	like it, and found it pleasing
It's good. No problems with it, have to scroll a bit	like it
Likes it. Works well.	like it, and found it pleasing
Good idea, but too much information. Might use minimize buttons to get rid of some portlets	make portlet more distinguishable
like that they're separated, don't like that you have to scroll (maybe an effect of the prototype)	

Recommendations:
- Adopt portlet design

Portlet Properties

Participants were asked to prioritize the portlet properties during the testing session.

Finding:
- All the participants agreed that Edit, Move/Rearrange, Collapse/Expand, Contextual Help, Delete/Resort are important and desirable portlet properties.
- Edit is rated No.1 important property by both students and instructors.
- Help feature is more important to instructors than students.

The following is a summary of importance ratings from the participants.

Portlet properties	Instructor ratings		Student ratings	
	Average (ᵹ)	Rank	Average (ᵹ)	Rank
Edit	9.5 (0.8)	No. 1	7.8 (1.3)	No. 1
Move/Rearrange	7.1 (2.4)	No. 5	7.0 (2.2)	No. 3
Collapse/Expand	8.1 (2.1)	No. 3	6.4 (2.7)	No. 4
Contextual Help	8.9 (1.0)	No. 2	5.4 (3.4)	No. 5

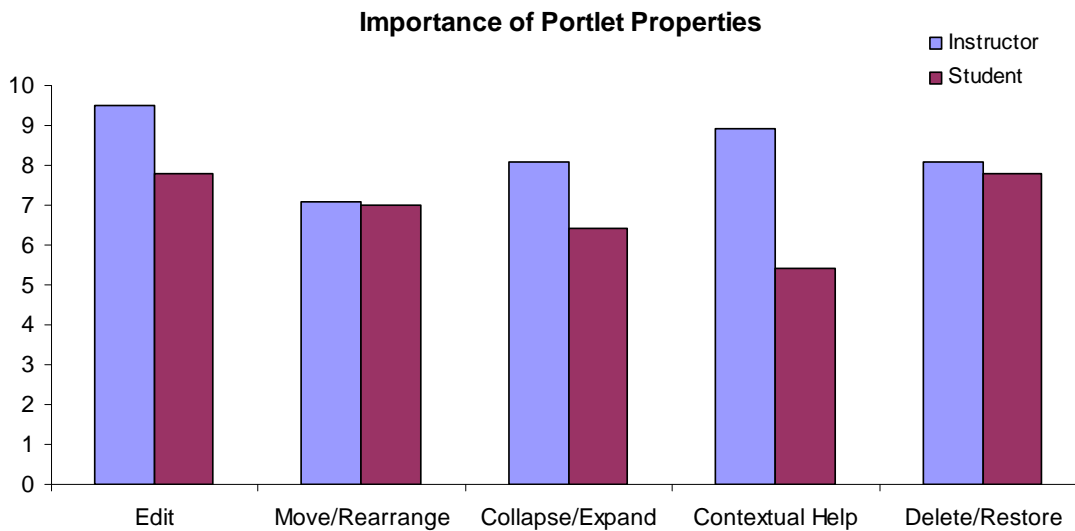| Delete/Restore	8.1 (1.6)	No. 3	7.8 (1.8)	No. 1

Importance of Portlet Properties

Figure 10: Importance of Portlet Properties

Recommendations:
- Provide all the features if possible.
- Focus on the Edit property (give users appropriate customization privilege)

Portlet Labels

Participants were asked if the portlets labels make sense to them during the testing session.

Finding:
- "Myplaces" was very confusing to most participants
- Instructors were very curious about the community types

Figure 11: MyPlaces Portlet

Recommendations:
- Come up a better portlet title (i.e. Teaching resources and tools)

Announcement Levels

Participants were asked what kind of announcement they would expect to see in the announcements portlet.

Finding:
- 57.1% of the instructors expected to see system level message in the Announcements portlet, and to see course level announcements when they entered into a specific course.
- 28.6% of the instructors and 75% of the students expected to see both levels, but in different groups
- 14.3% of the instructors and 25% of the students expected to see course level announcements in the Announcements portlet.
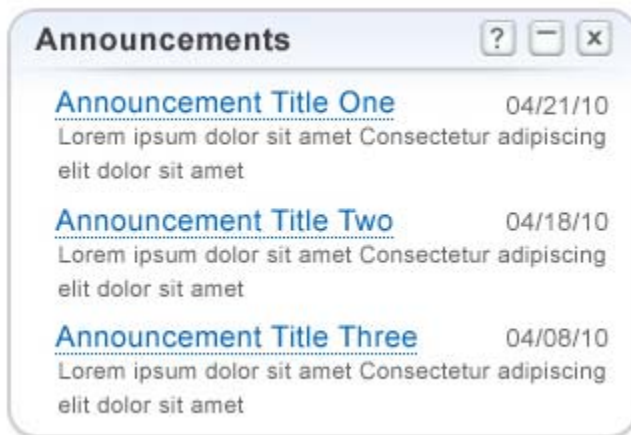

Figure 12: Announcements Portlet

Recommendations:
- Only show system level announcements
- Could be used to announce related product information

Access a Specific Course

Participants were asked where to access a specific course during the evaluation.

Finding:
- All the instructors and students reported that they will look for the course in the MyCourses portlet

Figure 13: MyCourses Portlet

Recommendations:
- Show some class activity indicators below each course (e.g. new student submissions, new class announcements)

Help Features

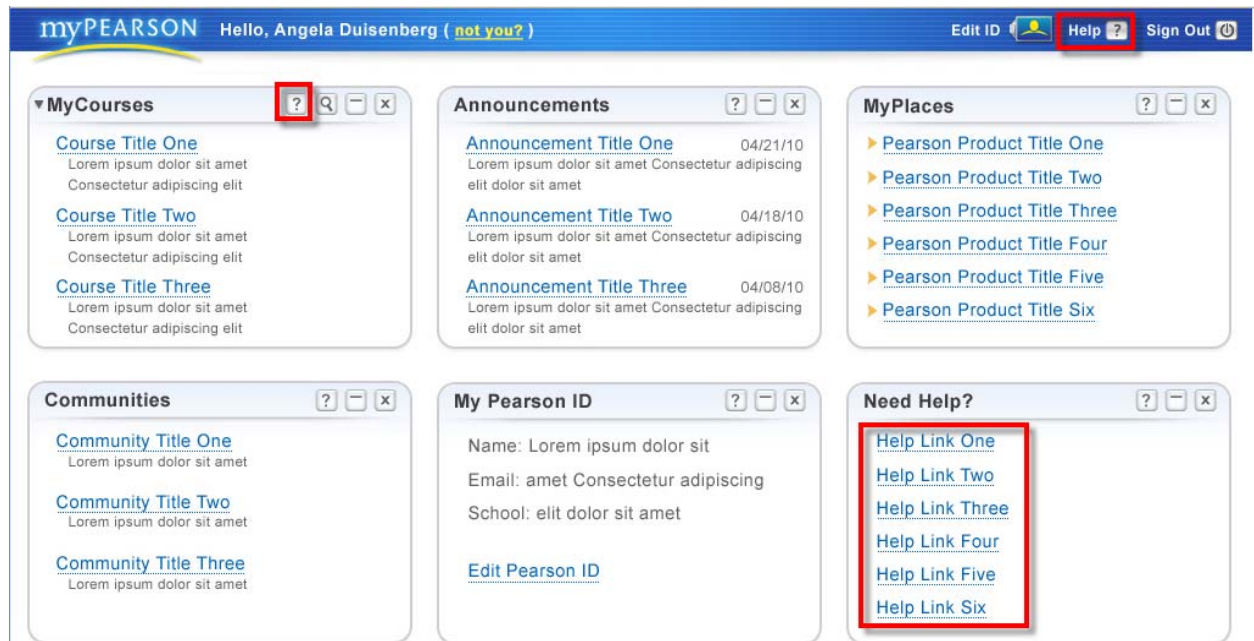Participants also evaluated three different help features during the session.

Figure 14: Help Features

Finding:
- 16.7% of the instructors would use the help button in the portal header for help information, 16.7% of the instructors would click on the "Question" button in each portlet, and 66.6% of the instructors would resort to the links in the Need Help portlet.
- 100% of the students thought they will try the links in the Need Help portlet for help information, 50% of them also pointed out that on the "Question" button in each portlet is their secondary option.

Recommendations:
- Contextual help is a must-have feature
- Consider live support feature (i.e. text chat, voice chat)

Collapse/Expand Portlet

Participants evaluated three different ways to collapse/expand a portlet during the session.

Figure 15: Collapse/Expand a Portlet

Finding:
- Most participants preferred to use minimize/maximize button to collapse/expand a portlet

The following is a summary of participants' preferences.

Collapse/expand Methods	Preferred by instructors	Preferred by students
Arrow button	**0%**	**25%**
Portlet title	**12.5%**	**0%**
Minimize/maximize button	**87.5%**	**75%**

Recommendations:
- Use minimize/maximize button to collapse/expand a portlet
- Provide mouse-over text to explain the feature as well

Access Focus View

Participants evaluated two different ways to access the full portlet (known as focus view) during the session.

Figure 16: Access Full Portlet

Finding:
- Majority of the participants preferred to click on the portlet title to access focus view.
- The "Magnifying Glass" button caused a lot of confusion among the participants. Many of them thought it was a search button or a button to increase portlet size.

The following is a summary of participants' preferences.

Collapse/expand Methods	Preferred by instructors	Preferred by students
"Magnifying Glass" button	0%	12.5%
Portlet title	100%	87.5%

Recommendations:
- Access focus view by clicking on the portlet title
- Provide visual clue for this "hidden" feature (refer to iGoogle portal)
- Explore other options for this feature

Lightbox vs. New Window

Participants evaluated two different ways (lightbox vs. new window) to display two types of information:
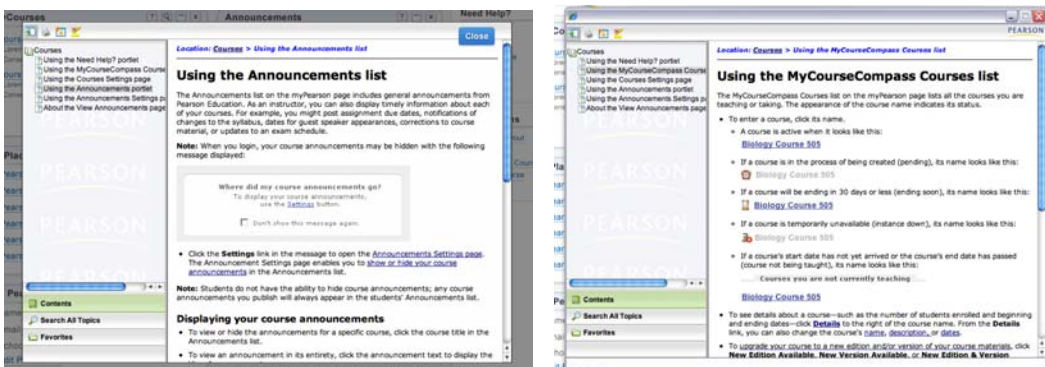1. license agreement and privacy policy
2. help

Figure 17: Lightbox vs. New Window

Finding:
- Majority of the participants preferred to see help information in a small pop-up window to better facilitate simultaneous viewing when following step-by-step instructions.
- They would like to see license agreement and privacy policy in Lightbox

The following is a summary of participants' preferences on displaying help information.

Display Method	Preferred by instructors	Preferred by students
Lightbox	42.9%	37.5%
New Window	57.1%	62.5%

The following is a summary of participants' preferences on displaying license agreement and privacy policy information.

Display Method	Preferred by instructors	Preferred by students
Lightbox	100%	87.5%
New Window	0%	12.5%

Recommendations:
- Lightbox is good for one-time use information
- New window works great for displaying help menu

Tab vs. No Tab

Participants evaluated two navigation systems (portlet only vs. portlet + tab menu) for the portal prototype.
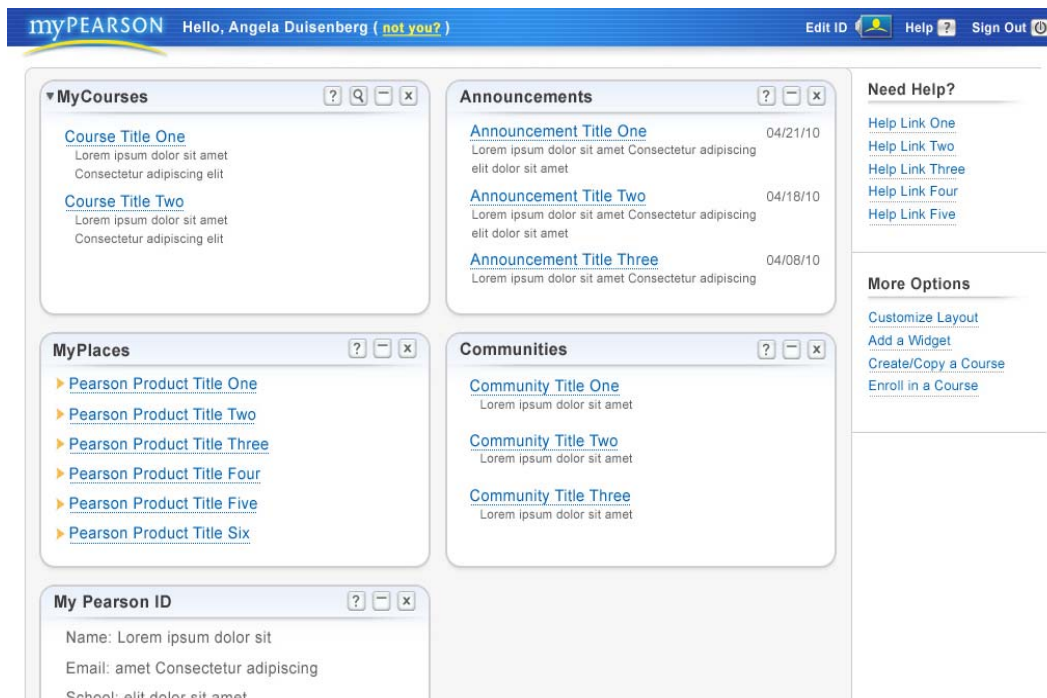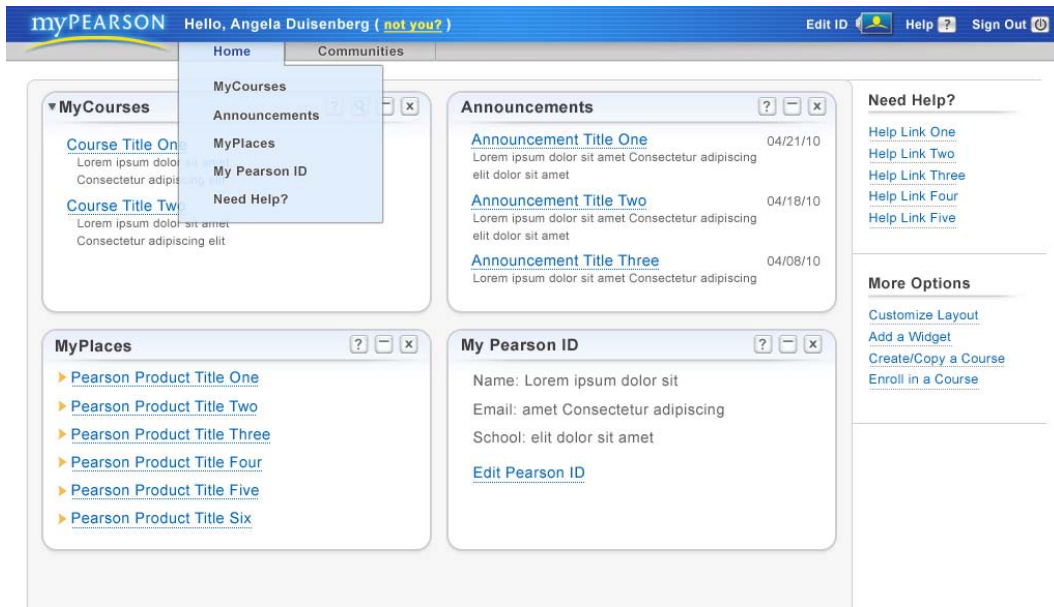

Figure 18: Non-tabbed Version

Figure 19: Tabbed Version

Finding:
- Most instructors were fine with tabbed version (4 out of 7)
- Majority of the students (6 out of 8) would like to use non-tabbed version

Recommendations:
- Tab navigation is not a "must-have" feature
- It could be useful if there are lots of portlets on the portal homepage.

Communities Portlet (Instructor Only)

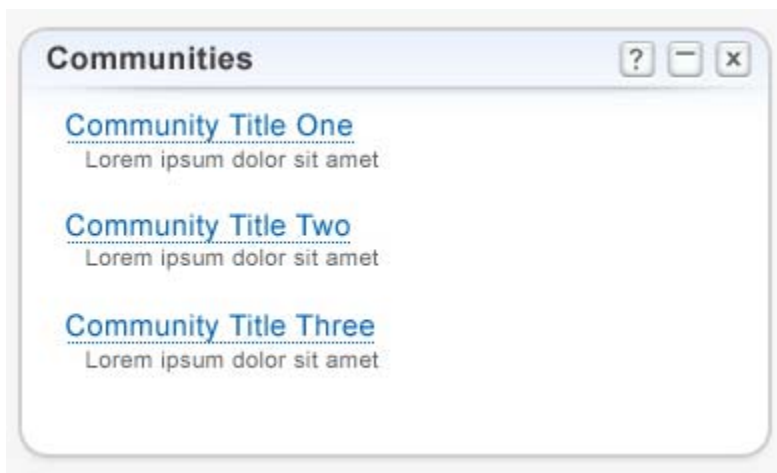Participants evaluated the Communities portlet during the test.

Figure 20: The Communities Portlet

Finding:
- Instructors did not have a clear idea about the Communities portlet.
- Once we introduced the community idea to the instructors, they immediately supported this feature.

- 3 out of 7 instructors though the Communities deserve its own tab. However, they want to see the Communities portlet on the portal page as well.

The following is a summary of comments on community from the instructors.

Comments from instructors
not sure
instructor or student groups associated with her
not sure (could be instructor /peer community; instructor/student community),
don't know (like it when we explain the community feature)
Student forum (course level); instructor forum
Blogs
instructor chats

Recommendations:
- Promote the community (i.e. Market campaign)

Delete/Add a Portlet

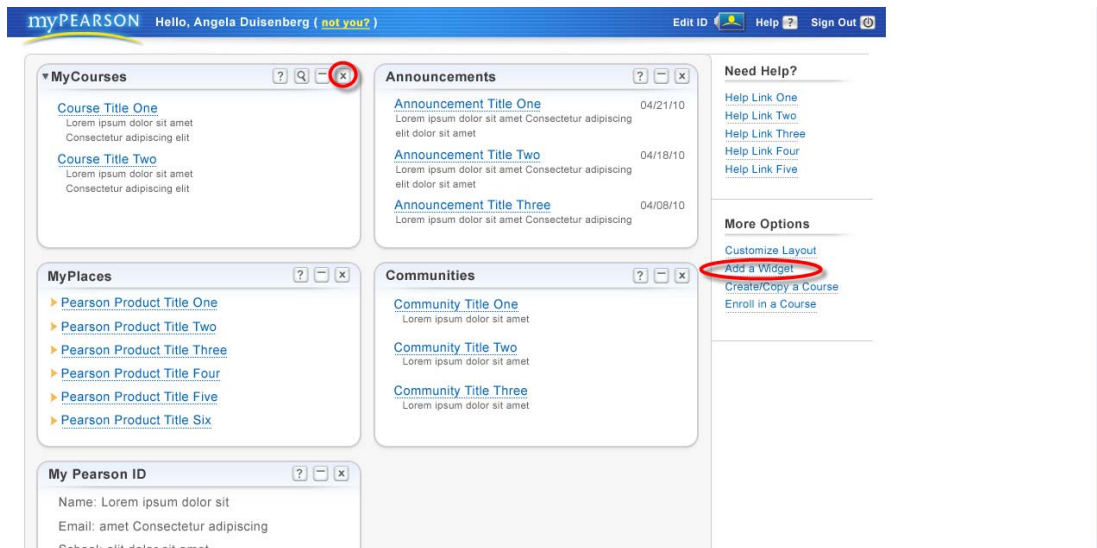Participants evaluated the process of deleting and adding a portlet during the test.

Figure 21: Delete/Add a Portlet

Finding:
- All the participants knew how to delete a portlet
- Majority of them knew how to get it back (clicking on "Add a Widget"). Two instructors had some issues. One questioned about the term usage. Widget means something different in his teaching field (Economy). The other simply had no idea about how to get it back.

Recommendations:
- Do some research on naming alternatives the link "Add a Widget"

Drag and Drop Feature

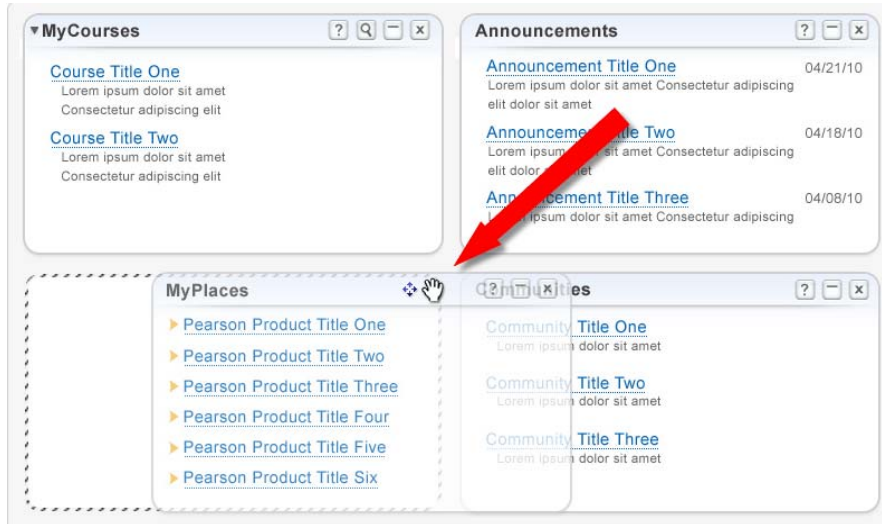Participants evaluated the Drag and Drop feature during the test.

Figure 22: Drag and Drop Feature
Finding:
- All the participants thought this is a highly desirable feature.
- Most of them liked the "Hand" icon to represent this feature.

The following is a summary of their preference on icons for the Drag and Drop feature.

Icon	Preferred by instructors	Preferred by students
Hand	50%	75%
Arrow	50%	25%

Recommendations:
- Go for the Drag and Drop Feature.
- Must provide some visual clue for users to let them know this great feature.

Logo Designs

Participants evaluated several logo designs during the test.

Figure 23: Logo Designs

Finding:
- All of them liked the myPEARSON logo design
- Participants had some issues with the ID icon. 42.9% of the instructors questioned the existence of the ID icon. They thought it's not necessary. 50% of the students did not have an idea about the ID icon.
- *** I seem to recall several students made comments to simply use the same small grey icon style as with Help and Sign Out; the same one currently in the live portal.

Recommendations:
- Continue the research on the need for and/or design of the ID icon.

Breadcrumb Trail

After participants entered the portlet focus view, they were asked to go back to the portal homepage.
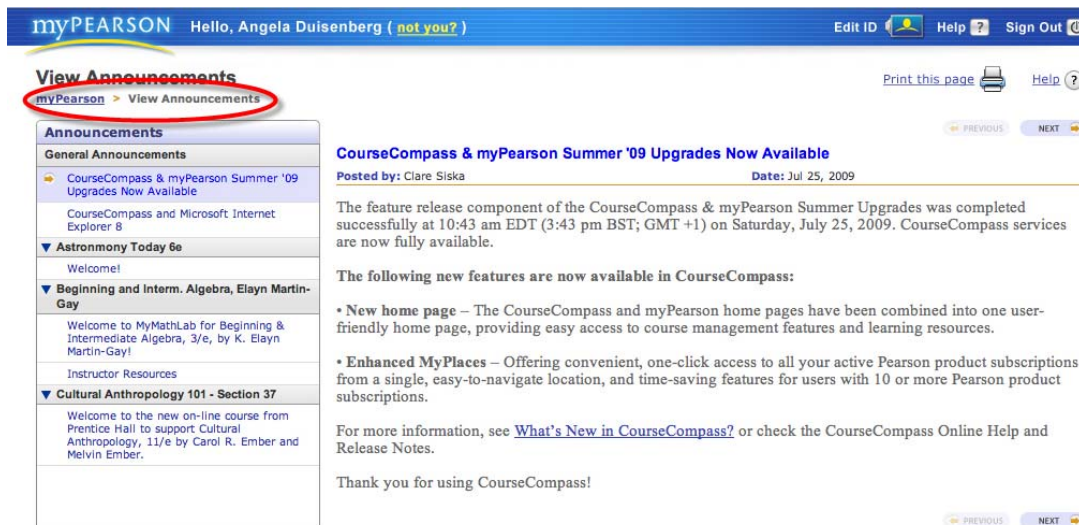

Figure 24: Breadcrumb Trail

Finding:
- Only 42.8% of the instructors noticed the breadcrumb trail option, and used it to go back to the portal homepage.
- All the students noticed it, but 25% of the students still preferred to use the browser "back" button

Recommendations:
- Make the breadcrumb trail more visible.

Related Product Information (Instructors)

6 instructors were asked if they would like to see related product information (e.g. new edition of their textbook).

Finding:
- 2 out of 6 instructors did not want to see this type of information on their portal page. They hate advertisement, and don't have right to select their own textbook.
- 4 out of 6 instructors would like to see it, but they want to see it in the announcements portlet or more options section.

Recommendations:
- Deliver related product information as an announcement to the Announcements portlet.

Desirable New Features

Several new features were recommended by participants.
Finding:
- Instructors requested "Live" support feature.
- Students wanted "Grades" portlet (allow them to track down their performance in every active course).

APPENDIX

Appendix A, Test Plan

Test plan is available for review at:

http://docs.google.com/Doc?docid=0AWt8lWXBldcNZGM5c3IzYjhfNjNobTRuNW1mYg&hl=en

Based on participant role and test order, there are 8 different test scripts.

Instructor versions:

Version 1 (Three-column portal → Two-column design → Live portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Final%20Test%20Script%201%20of%204.doc

Version 2 (Two-column portal → Three-column portal → Live portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Final%20Test%20%20Script%202%20of%204.doc

Version 3 (Live portal → Two-column portal → Three-column portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20final%20Test%20%20Script%203%20of%204.doc

Version 3 (Live portal → Three-column portal → Two-column portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Final%20Test%20%20Script%204%20of%204.doc

Student versions:

Version 1 (Three-column portal → Two-column design → Live portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Student%20Script%201%20of%204.doc

Version 2 (Two-column portal → Three-column portal → Live portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Student%20Script%202%20of%204.doc

Version 3 (Live portal → Two-column portal → Three-column portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Student%20Script%203%20of%204.doc

Version 3 (Live portal → Three-column portal → Two-column portal) is available for review at:
http://ux.pearsoned.com/research/usability/usability_studies/Portal%20Theme/Portal%20Theme%20Student%20Script%204%20of%204.doc