K-State Libraries Usability Team Report:

Self-checkout machine mini test

Fall 2014

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Introduction

K-State Libraries employs a patron-centered approach to information finding and resource sharing that makes our online and physical presence easy to navigate, sought out by patrons, valid in content, and reliable in currency of information. The primary outcome of this usability test was to determine the optimal placement of two self-checkout machines on the main floor of Hale Library, the campus' largest library. This test was conducted during the summer of 2014 and, again at mid-fall of the same year when checkout totals were the greatest.

The test was done in the form of online and paper surveys. Respondents voluntarily answered questions that tested their awareness of two self-checkout machines and allowed them to share their desired placement of the machines within Hale Library.

This test met two of the Libraries strategic themes:

> Theme 3. K-State Libraries will increase visibility and understanding of staff, roles, services, collections, and programs of the Libraries to promote the added value that libraries and librarians bring to engagement.

> Theme 4. K-State Libraries will balance the need for physical library space for collections, study, teaching and learning, operations and other patron-driven functions and activities.

Recommendations

Based on the observations and results of the usability test, we make the following recommendations:

1. Complete a project where every book in Hale Library is checked to ensure it has a barcode label, not just an OCR label.

2. Schedule regular cleaning of the card swipes on the self-checkout machines.

3. Redesign the use instructions for better comprehension by the patron and better visibility.

4. Purchase an additional machine when checkout of all materials available to be checked out at the machines reaches 90%.

Methodology

The usability team began the test by gathering circulation statistics from the two self-checkout machines. As of April 2014, the self-checkout machines accounted for 17.67% of the number of checkouts possible at Hale, with the machine on the south side of the column near the entrance receiving the vast majority of the self-checkouts.

InfoCommons area of Hale Library, May 2014
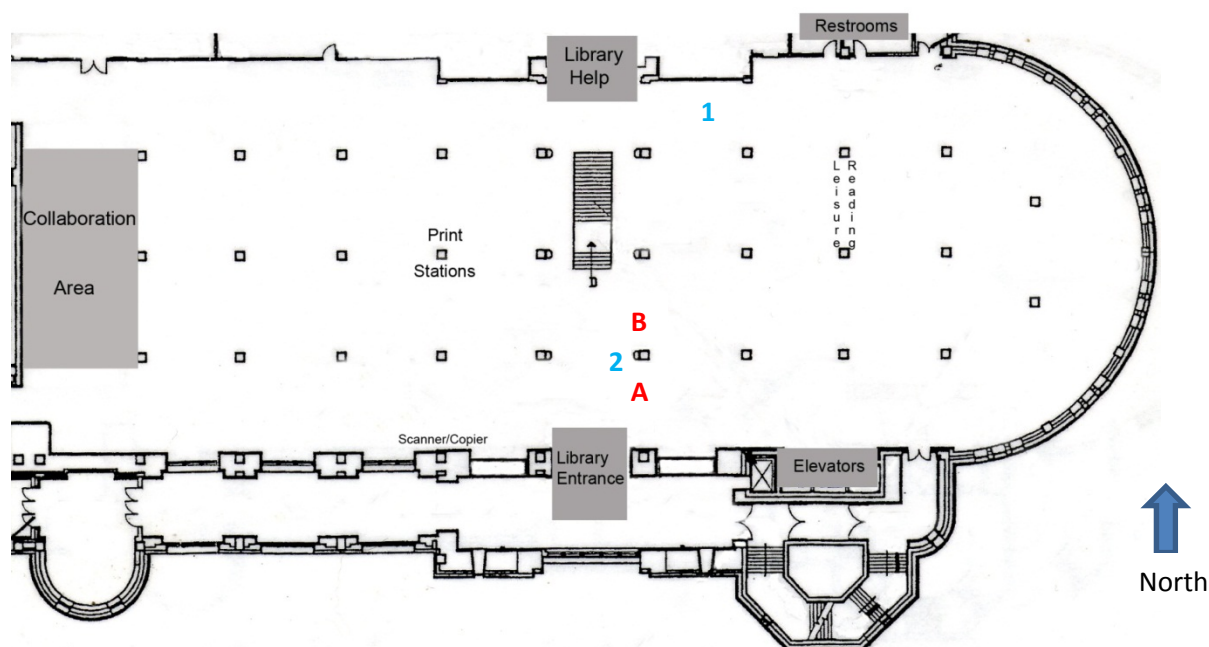
Self-check B was located to the east of Library Help (**1** on above map) prior to a re-design of the desk (December 2013). Self-check B was relocated from the north side of the column to the west side (**2**) after the first self-checkout usability test (July 2014).

We then developed six simple questions to gather demographic information, identify the type of library material patrons check out, determine their awareness of the two self-checkout machines, and their desired placement of the machines within Hale Library.

Once an Internal Review Board (IRB) application was approved by the Kansas State University's Research Compliance Office, a paper and online survey were deployed to gather information. The online survey was linked from the Libraries' website and shared via email and social media. The paper survey was left at each self-checkout machine as well as distributed by staff at Hale Library Help as materials were checked out.
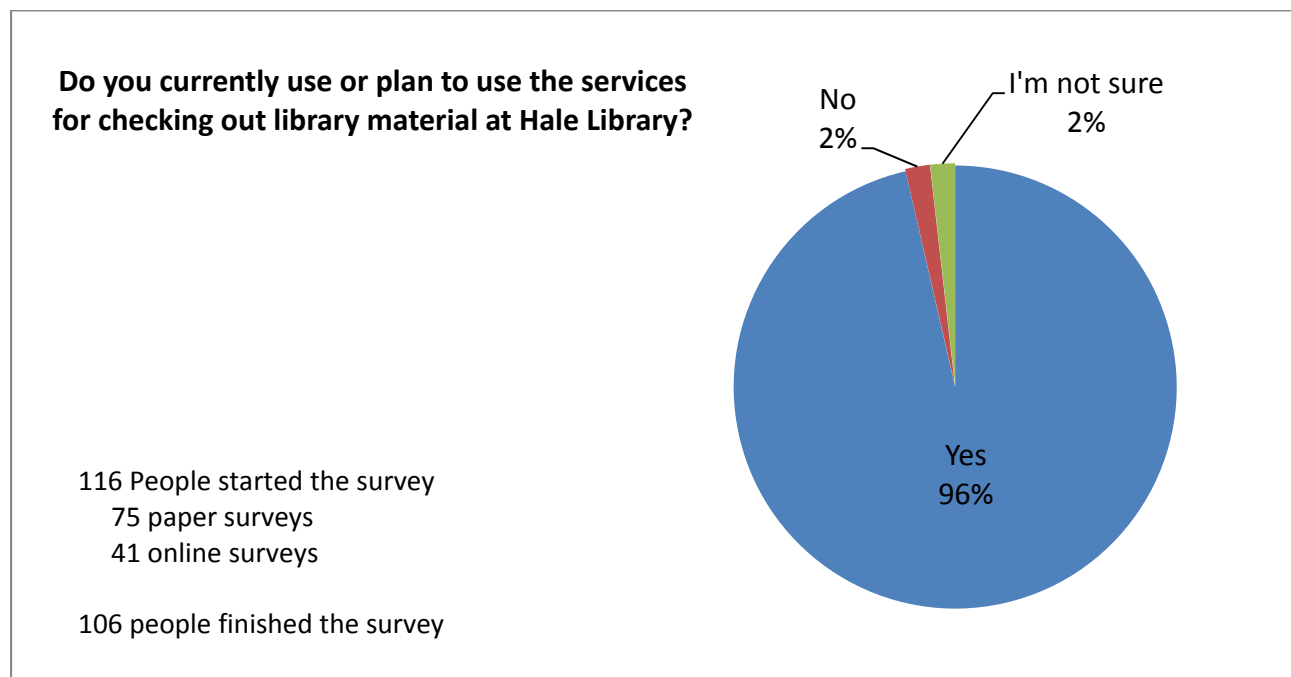
Following the initial testing period in May, the returned paper surveys were entered into the online survey form to take advantage of the reporting features offered in Qualtrics, the online survey software used at K-State. A summary of the results can be found in Appendix A. In July, self-checkout machine B was moved from the north side of one of Hale Library's columns to the west side. This position put Self-check B at a right angle to Self-check A.

The usability test was re-administered in October 2014. Access Services identified October as the month with the most material checked out in Hale Library. The same paper and online surveys were used as in the earlier test. The paper surveys were once again entered into the online form after they were returned. Our objectives remained the same as the first test: to gather demographic information, identify the type of library material patrons check out, determine their

awareness of the two self-checkout machines, and the desired placement of the machines within Hale Library. One desired outcome was to gather more responses from undergraduate students. Statistics showed that the percentage of material that could be checked out using a self-checkout machine had increased by October to 41.03%. A summary of the results of the October test can be found in Appendix B.
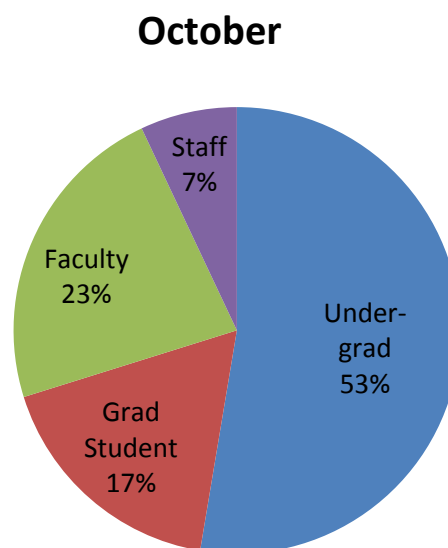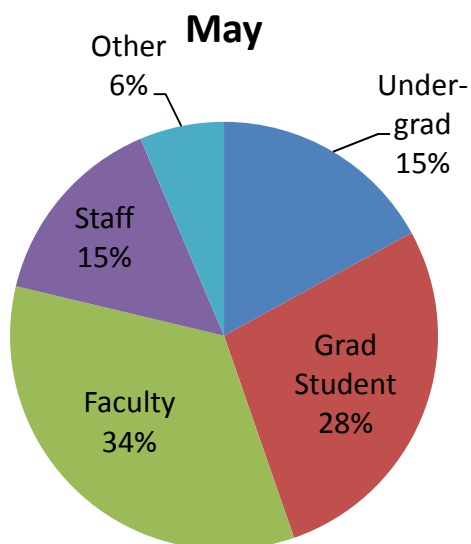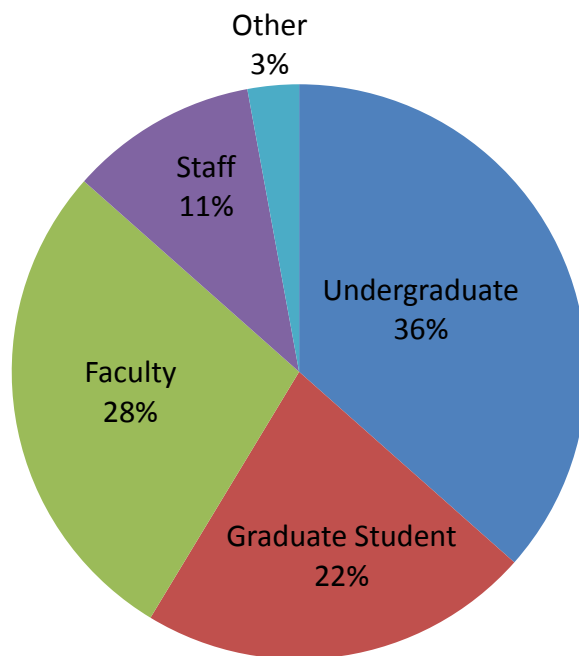
Results

Overall, 116 surveys were started – 75 being paper surveys and 41 from online recruitment through the Libraries' homepage. Thirty-one of the 41 online survey takers completed it (giving us 106 completed surveys). Four dropped out before answering a single question. One hundred seven (96%) participants check out or plan to check out material from Hale Library. Two did not and two were not sure. Those that said they did not plan to checkout material from Hale, were asked their status (both selected 'Other'). These were the only questions they were asked.

Do you currently use or plan to use the services for checking out library material at Hale Library?

No
2%

I'm not sure
2%

Yes
96%

116 People started the survey
75 paper surveys
41 online surveys

106 people finished the survey

The status of our participants varied between the two tests. Larger numbers of faculty and graduate students participated during the first test, which reflects the composition of campus during the summer. During the fall, more undergraduates participated in the survey. Overall we had representatives from each group.

What is your status? Overall results

Pie chart — Overall results:
- Undergraduate 36%
- Graduate Student 22%
- Faculty 28%
- Staff 11%
- Other 3%

May

Pie chart — May:
- Under-grad 15%
- Grad Student 28%
- Faculty 34%
- Staff 15%
- Other 6%

October

Pie chart — October:
- Under-grad 53%
- Grad Student 17%
- Faculty 23%
- Staff 7%

The online survey asked 'What types of material do you check out or plan to checkout at Hale Library?' While the paper survey asked participants about the types of material they checked out during their current visit. Some materials – such as material on Reserves and material acquired through Interlibrary Loan must be checked out at Library Help; the self-checkout machines are currently not an option.

What material do/did you check out?
Overall results

Other included porn and help doing research
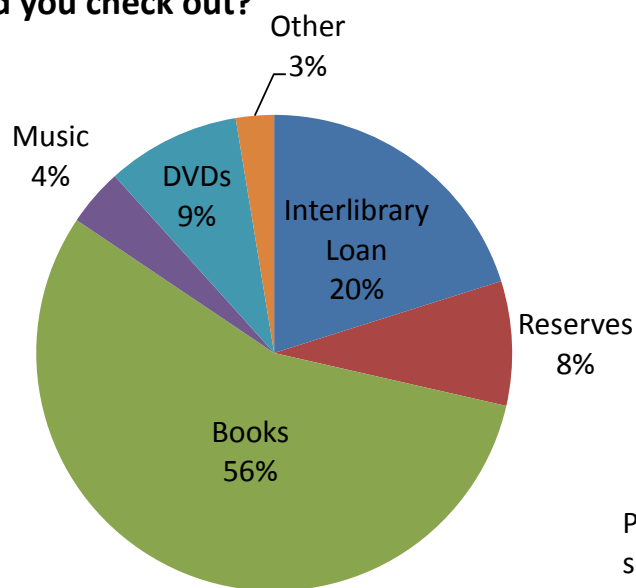
Participants could select more than one

Survey respondents could select more than one type of material, but few surveys indicated multiple types of materials. The results from the summer and fall surveys were nearly identical on the type of materials checked out. Overall, books are the most common material checked out at Hale Library.

Next the participants were shown this image and asked if they knew what it was used for:

The majority of the survey participants not only knew what the machine is used for, but had used it in Hale. This was true whether they had taken the survey online or on paper. The more surprising finding is that more people who took the paper survey than the online one, did not know what the self-checkout machine was, nor had they seen it in Hale. Paper surveys were only given out to people who were already in Hale.

Do you know what this is used for?	Total Responses	Paper	Online
Yes, and I've used it in Hale	70	49	21
Yes, and I've seen it, but never used it in Hale	10	6	4
Yes, but I've never it or used it in Hale	7	4	3
No, but I've seen it in Hale	5	3	2
No, and I haven't seen it in Hale	10	9	1

We were also interested in discovering where patrons think the best placement of the self-checkout machines is. Given a map of the public area of the InfoCommons, survey participants were asked to mark two locations they thought were the best places for the machines. Paper surveys were entered into Qualtrics to efficiently create the following four heat maps. Overall, 73 locations were selected.
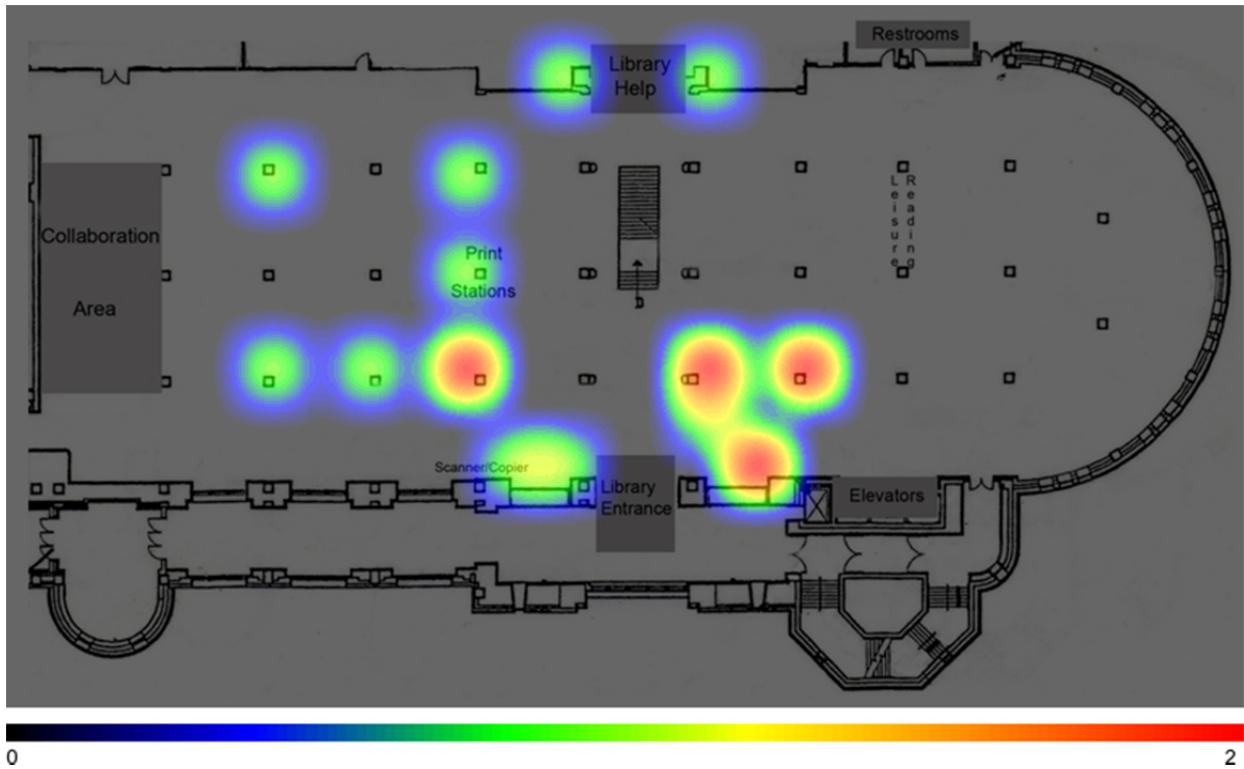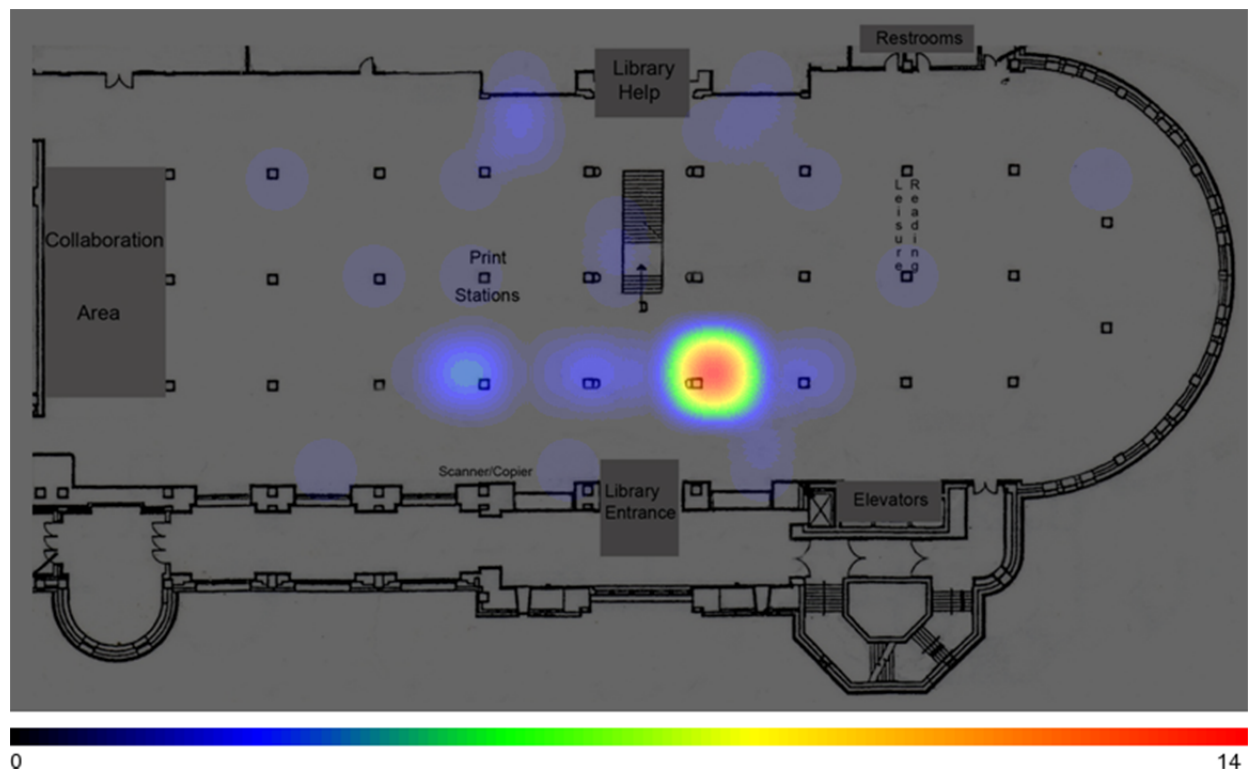
All Surveys

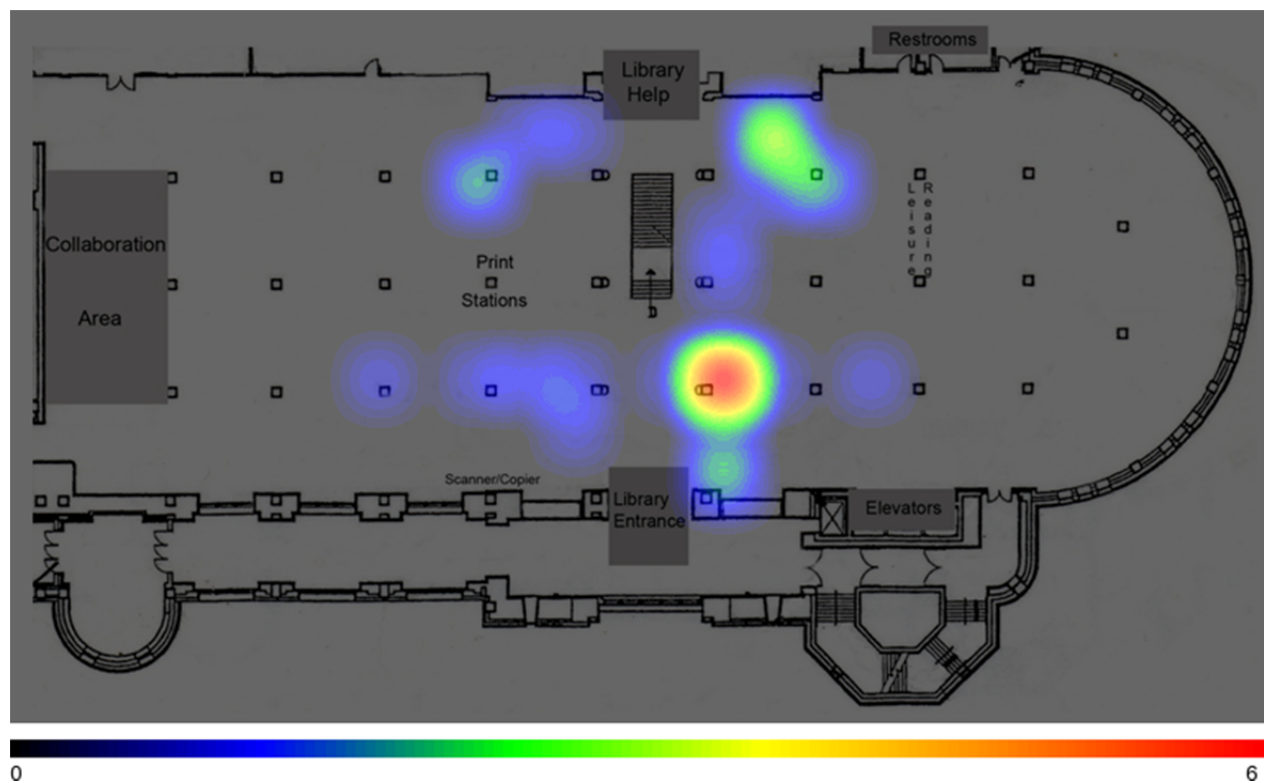0   29
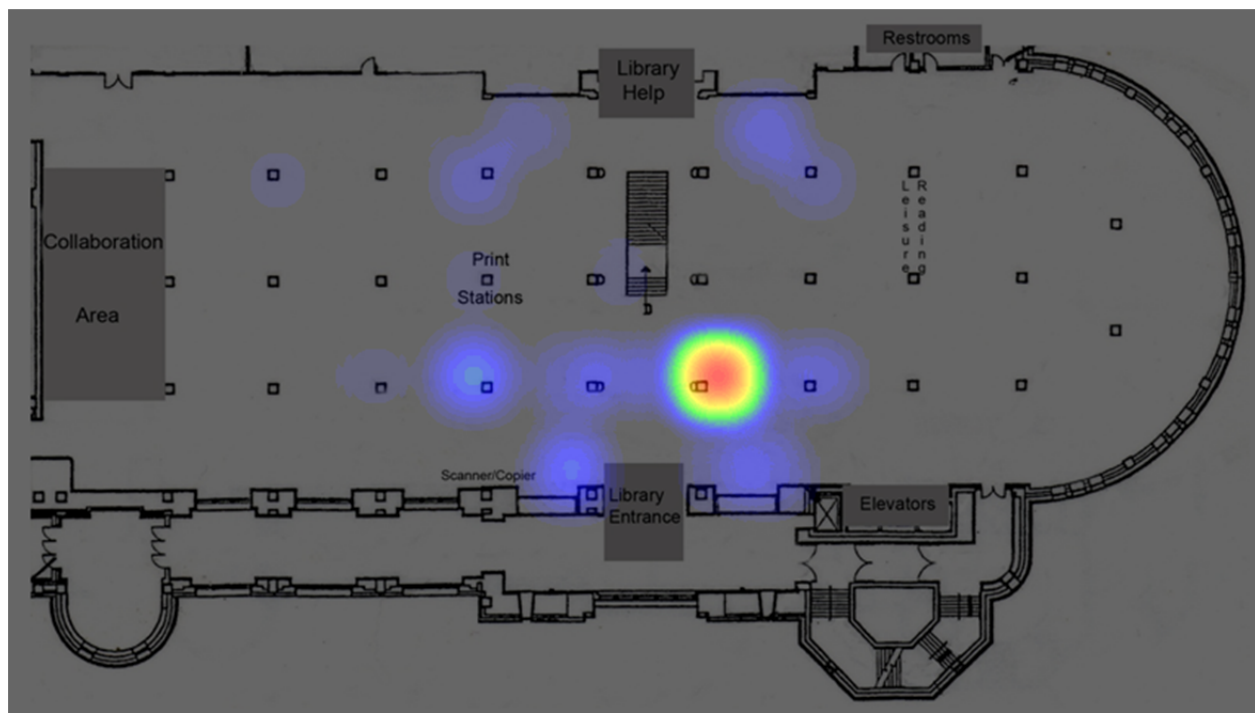
Faculty (18 suggested locations)
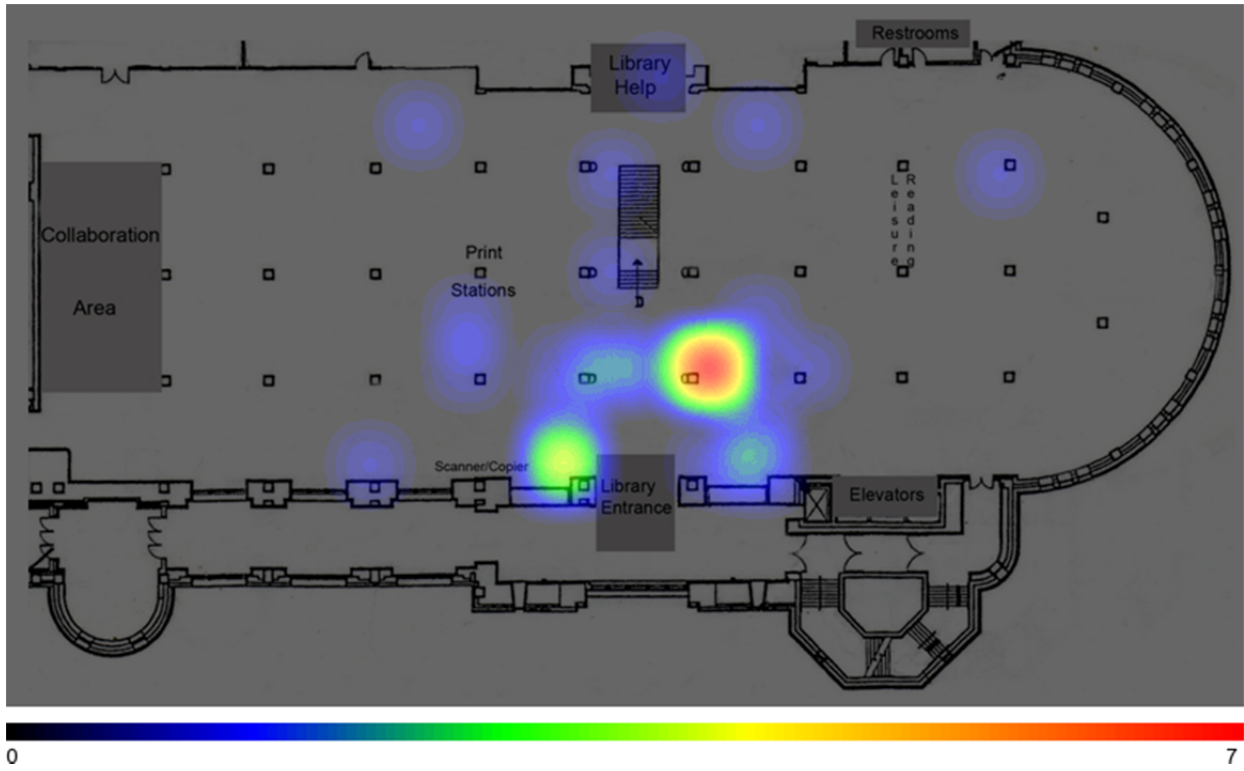
Staff (10 suggested locations)

Undergraduates (25 suggested locations)

Graduate Students (18 suggested locations)

Overall, survey participants chose the location near the column to the east of the library entrance (the location of Self-check A, on the earlier map) as the most preferred location, with a second location between the library entrance and the copy machine. Other locations with multiple hits were closer to Library Help, between the Library Help and Leisure Reading, near the printers, and to the west of the library's main entrance.

Next we looked at the heat maps according to their status and were surprised to see each group – faculty, staff, graduate students, and undergraduates – had a decided difference in where they would like the self-checkout machines to be placed. The first choice of faculty was between the library entrance and the copier, then the current location, but also in locations closer to Library Help. Undergraduates preferred the current location, but suggested locations that fell between the entrance and Library Help. The graduate students and staff who took the survey had a wider range of locations where they would like to see the self-checkout machines. Again, the current location received support, while other locations closer to Library Help were also identified.

We also received suggestions and feedback from 54 of the survey participants (26 summer, 28 fall). Five people suggested that we need more self-checkout machines:

- More than two machines, if possible.
- It is best to have several of them side-by-side to make them more conspicuous! This is how grocery stores do it - we should follow their lead.
- If you could put one on each floor, just outside the stacks, that would be ideal.
- I don't care where you put them. There [sic] great. Easy to use and I don't have to wait. [Suggestion] One on floors 1-4.
- They're Grrreat! Put one on the 4th floor.

Four others commented on the lack of barcodes on some material:

- In a dream world it would be very nice to be able to self-check materials that don't have a barcode.
- I can see it being a challenge when people run across the old barcodes then have no idea what to do.

Others want more instruction on their use:

- The instructions for which direction to read one's eID card in the card scanner seemed to disappear before I could read them. It wasn't obvious to me which direction to face the card in the reader. I had to try reading my eID card both ways.
- I'm not totally sure if I do it correctly because of a previous experience
- I am not tech savy [sic]
- give more instruction

Four commented that they were unable to find the self-checkout, and another that they had never used them.

Others commented that they: prefer personal help (8 people), find it easier to deal with humans, were unable to use the self-checkouts during this visit because they were checking out materials on reserve, had to pay a fine, or needed to check a book in before they could check it out again. Seven explained that Interlibrary Loan material cannot be checked out using the machines.

Finally:

- I think the current location is fine, although I like the idea of having one station closer to library help in case someone needs assistance. Having one further away from the help desk is also nice because on days that I'm having lots of anxiety, it means I can check-out without having to talk to people (that's not a knock on the librarians - everyone is very friendly, there are just days when it's nice to avoid contact).

When comparing the comments written by participants during the May and October tests, we noticed that the comments were more robust, with more complete thoughts and suggestions offered from the May test. This is something to be considered for future in timing usability tests, or in the type of test used.
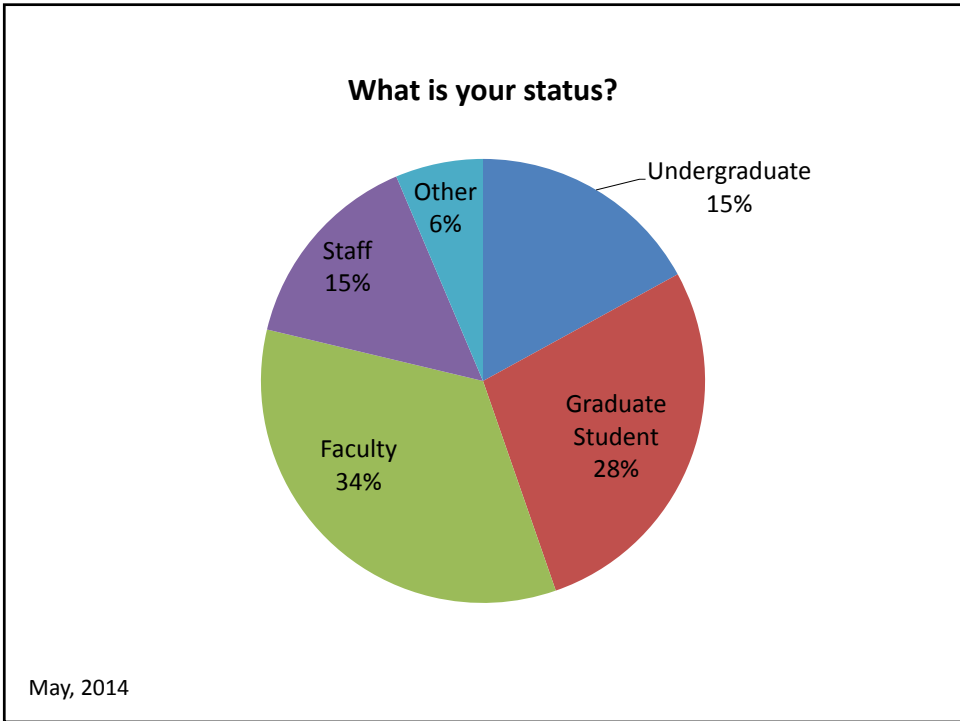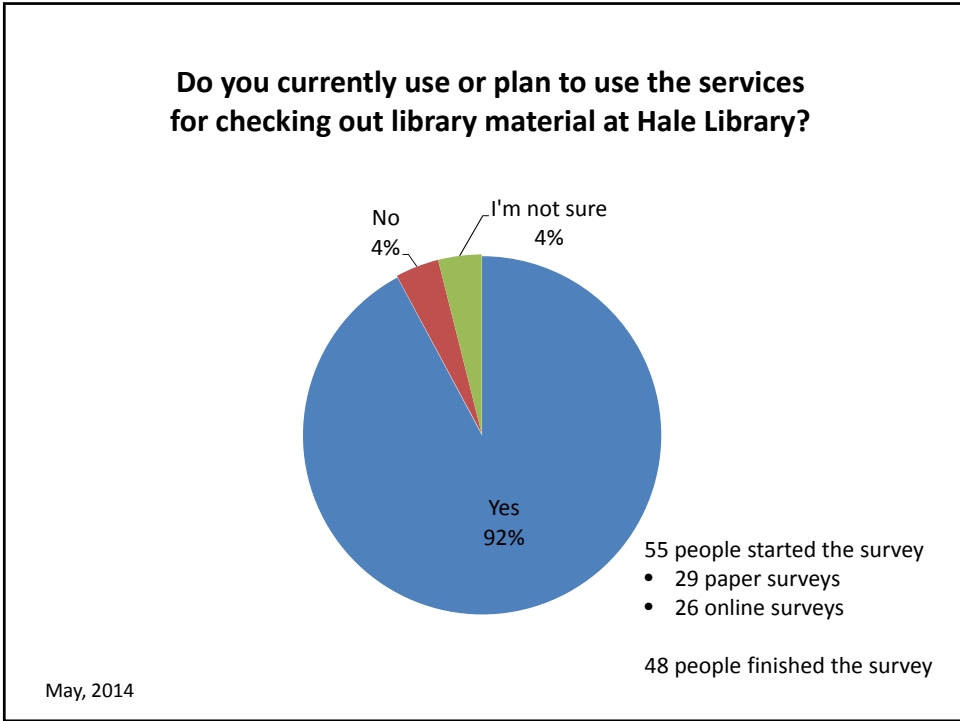
Respectfully submitted,
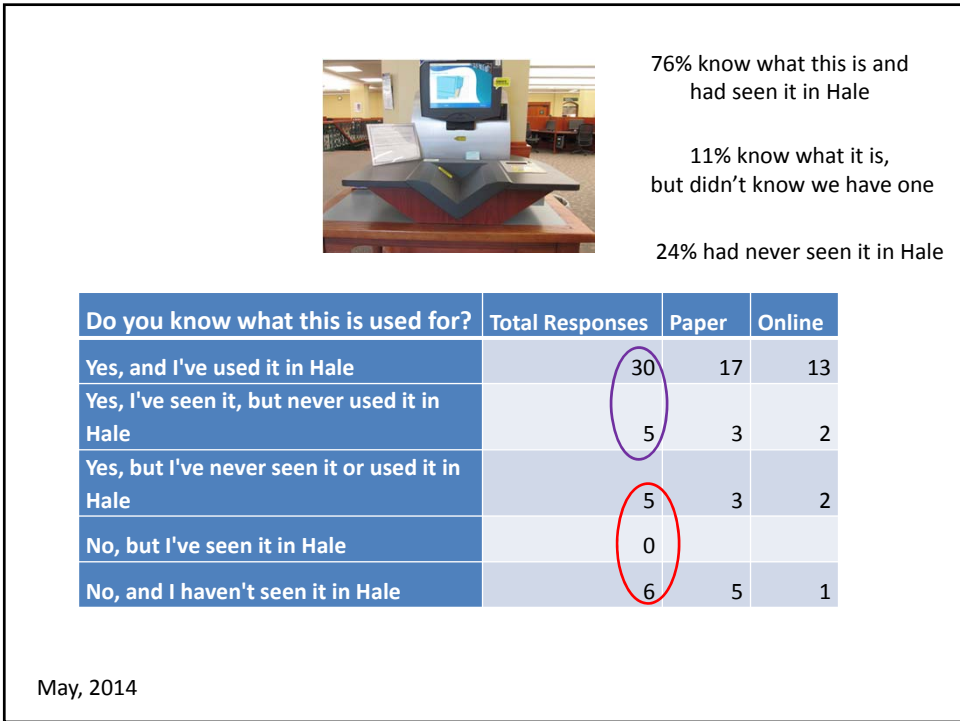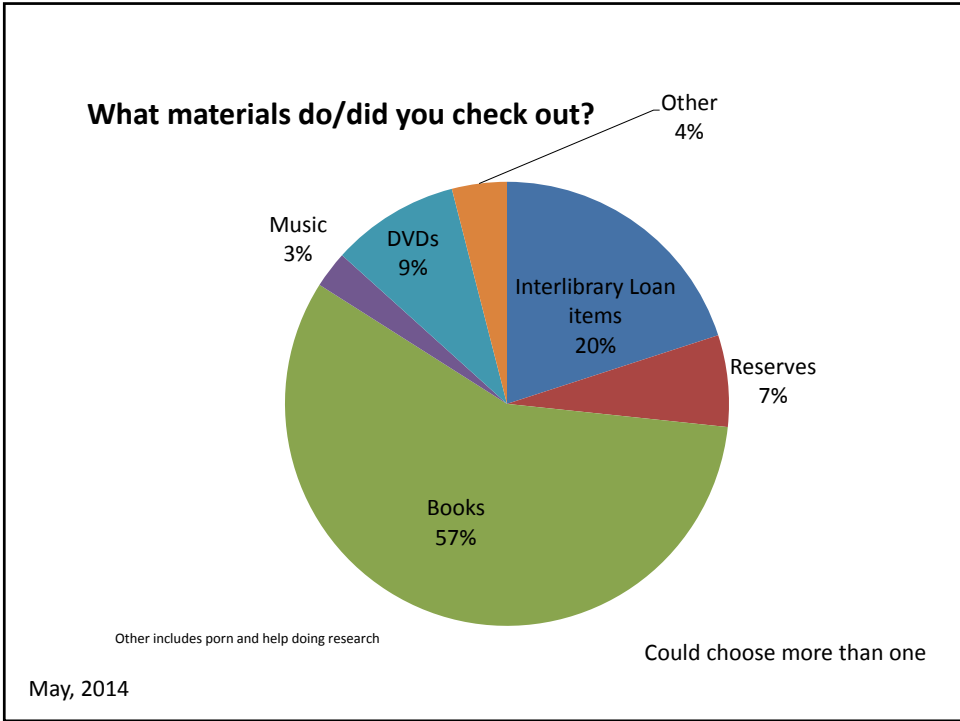Meagan Duever, Chair
Tara Coleman
Cindy Logan
Marjorie Devlin

Self-checkout Usability Mini Test
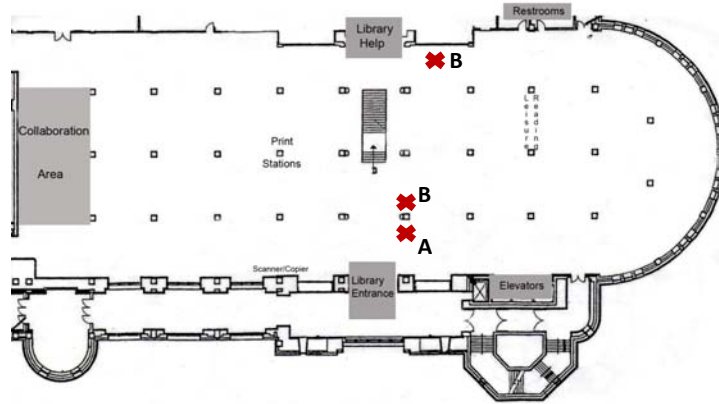
Summer 2014

Purpose and Background

- Determine awareness of the two self-checkout machines, and their desired placement within Hale Library.
- Number of checkouts at the self check
  - Month of May: 17.67%
  - Ideally: 85-90%
- Some materials cannot be checked out using the self-checkout
  - Reserves
  - Interlibrary Loan items
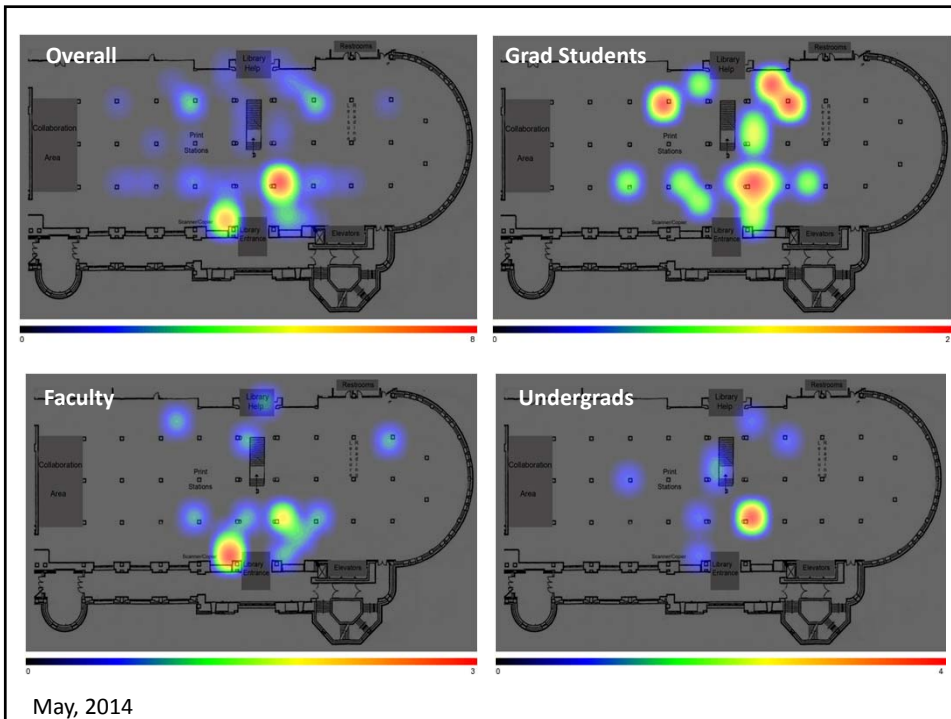 - Anything without a barcode

**Do you currently use or plan to use the services
for checking out library material at Hale Library?**

No
4%

I'm not sure
4%

Yes
92%

55 people started the survey
- 29 paper surveys
- 26 online surveys

48 people finished the survey

May, 2014

What is your status?

Other
6%

Undergraduate
15%

Staff
15%

Graduate
Student
28%

Faculty
34%

May, 2014

What materials do/did you check out?

- Other 4%
- Music 3%
- DVDs 9%
- Interlibrary Loan items 20%
- Reserves 7%
- Books 57%

Other includes porn and help doing research

Could choose more than one

May, 2014

76% know what this is and had seen it in Hale

11% know what it is, but didn't know we have one

24% had never seen it in Hale

Do you know what this is used for?	Total Responses	Paper	Online
Yes, and I've used it in Hale	30	17	13
Yes, I've seen it, but never used it in Hale	5	3	2
Yes, but I've never seen it or used it in Hale	5	3	2
No, but I've seen it in Hale	0		
No, and I haven't seen it in Hale	6	5	1

May, 2014

Additional Comments

- Received suggestions and feedback from 26 survey participants
  - Four people suggested that we need more self-checkout machines
  - Two others commented on the lack of barcodes on some items
  - Others want more instruction on the use of the self-check machines
  - Four commented that they were unable to find the self-checkout

May, 2014

Recommendations

- Based on the observations and results of the usability test:
  - Move the self-checkout machine currently north of the column, to another more visible location.
    - Preferably closer to Library Help so staff assistance is readily available if needed.
  - Complete a project where every book in Hale Library is checked to ensure it has a barcode label, not just an OCR label.
  - Purchase additional self-checkout machines for floors 1, 3, and 4, as the budget allows.
  - The instructions for use need to be revised for better comprehension by the user and better visibility.
- Conduct this test again in the fall when there are more undergraduates on campus. And more traffic in general for more completed surveys which will allow for better inferences to be made.

May, 2014

Self-checkout Usability Mini Test

Part 2: October 2014

Purpose and Background

- Determine awareness of the two self-checkout machines, and their desired placement within Hale Library.
- Number of checkouts at the self check
  - Currently ?
  - Ideally 85-90%
- Some materials cannot be checked out using the self-checkout
  - Reserves
  - Interlibrary Loan items
  - Anything without a barcode

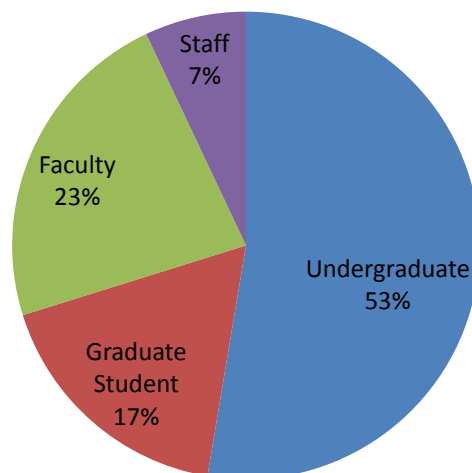**Do you currently use or plan to use the services for checking out library material at Hale Library?**

100%
Yes!
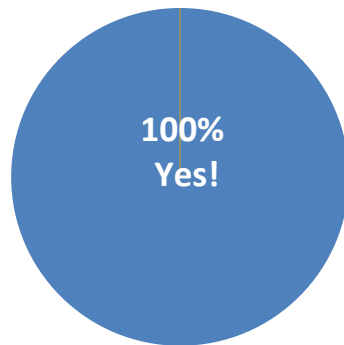
Started the survey:
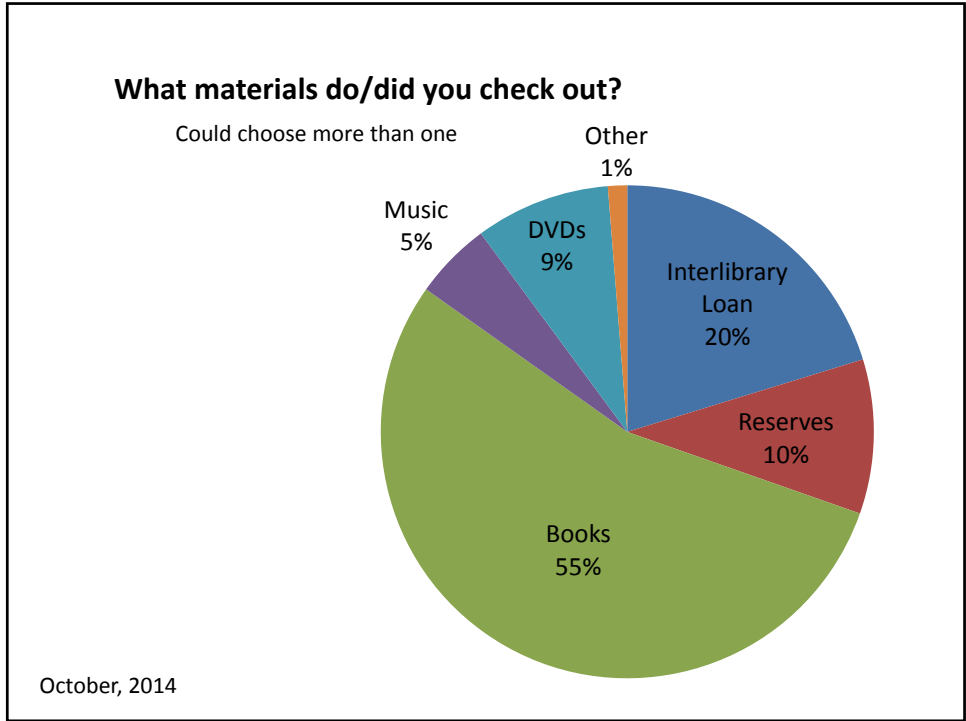 15 online surveys
 63 print

Completed the survey:
 12 online
 46 print were returned

October, 2014

What is your Status?

Staff
7%

Faculty
23%

Undergraduate
53%

Graduate
Student
17%

October, 2014

What materials do/did you check out?

Could choose more than one

Pie chart:
- Other 1%
- Music 5%
- DVDs 9%
- Interlibrary Loan 20%
- Reserves 10%
- Books 55%

October, 2014

80% know what this is and had seen it in Hale

4% know what it is, but didn't know we have one

11% had never seen it in Hale

Do you know what this is used for?	Total Responses	Paper	Online
Yes, and I've used it in Hale	40	32	8
Yes, I've seen it, but never used it in Hale	5	3	2
Yes, but I've never seen it or used it in Hale	2	1	1
No, but I've seen it in Hale	5	3	2
No, and I haven't seen it in Hale	4	4	0

3 paper surveys did not indicate a response
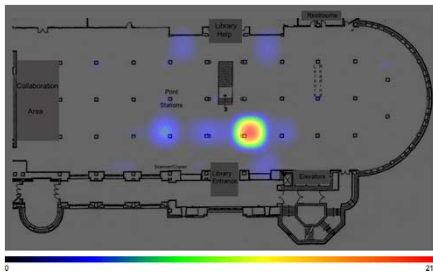
October, 2014

Appendix B
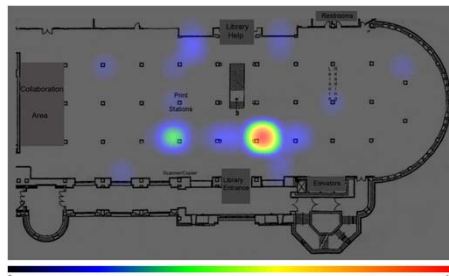

Where are the self-checkout machines?
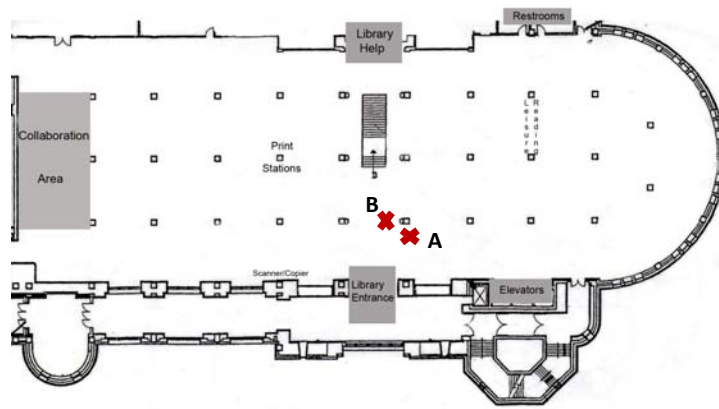
Self-check B was relocated from the north side of the column to the west side after the first self-checkout usability test (July 2014)
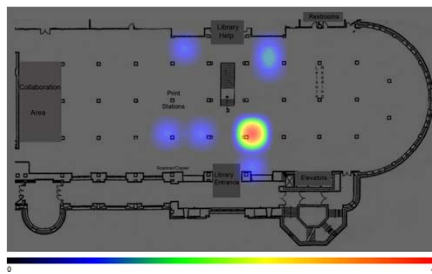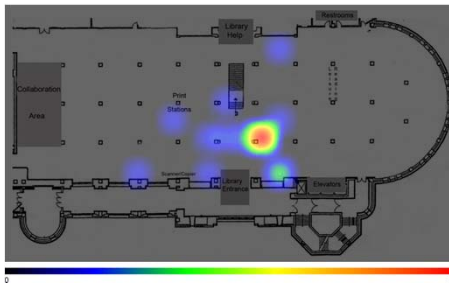
North

Overall

Undergraduate

Graduate

Faculty

October, 2014

Additional comments

- Received suggestions and feedback from 28 survey participants
  - Five people prefer human interaction
  - Four mentioned a technical issue
    - Lack of bar codes – two people
    - 'often don't work' and 'didn't print receipt'
  - Seven people 'love' the machines or think they're 'great'
  - One suggested adding one to 4th floor

October, 2014