

# **Surface Tables in Libraries: A Multi-Phase & Multi-Method Usability Assessment Project**

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In Collaboration with the Harvard Library UX  
Team

## Previous Research

- Hand use and gesture interaction
- Tabletops and collaboration
- Tabletops and Libraries
  - Cao et al. (2010):
    - Elementary School Library in UK TellTable Software
  - Thudt et al (2012):
    - The Bohemian Bookshelf in University of Calgary Library

## The Present Study

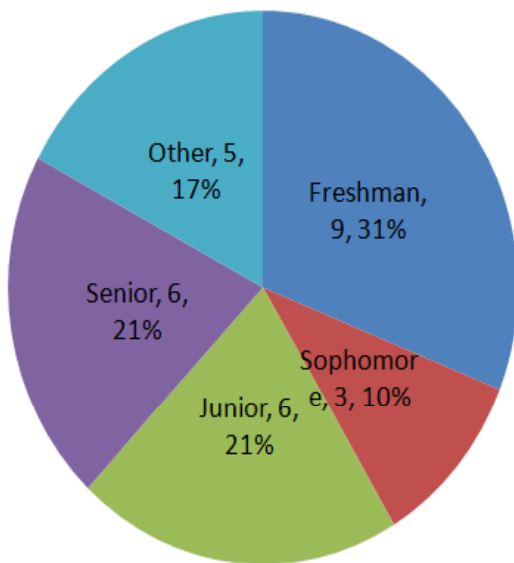
- **Phase I:** Individual usability tests (April 2012)
- **Phase II:** Two-person team usability tests (Oct-Nov. 2012)
- Purposes:
  - Conduct first usability tests of library users using Library Explorer
  - Compare individual with dyadic collaborative performance & usability issues
  - Obtain understanding of how interactive tabletops facilitate students learning individually and collaboratively

## Usability tests detail

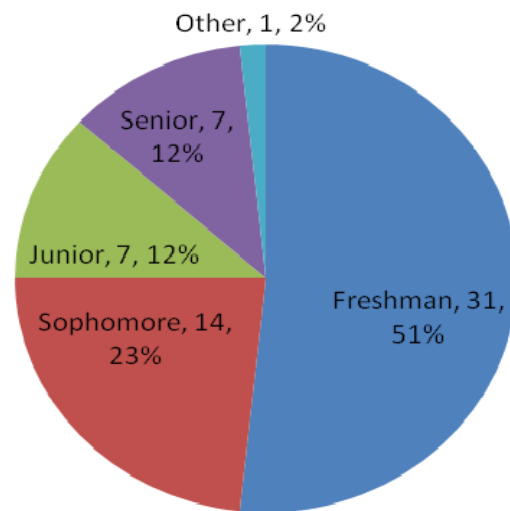
- Participants: Harvard Undergraduate students
  - Phase I: N=29 (F=18, M=11)
  - Phase II: 30 sessions (N=60, F =33, M=27)
    - F&F: 11 sessions; F&M: 11 sessions; M&M: 8 sessions
- Test session: Recorded through Morae software and Quicktime
  - Pre-session interview
  - Usability test
  - Post-session interview

# Participants: Status

**Phase I**

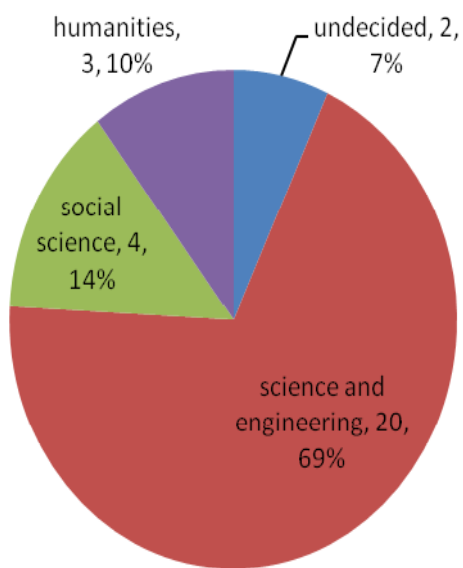


**Phase II**

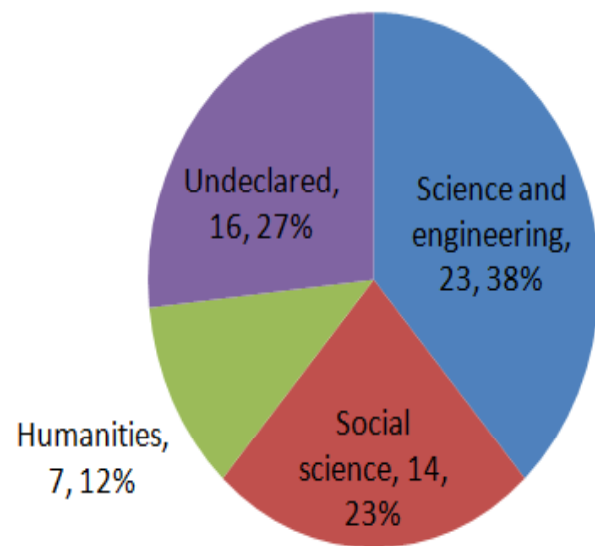


## Participants: Major

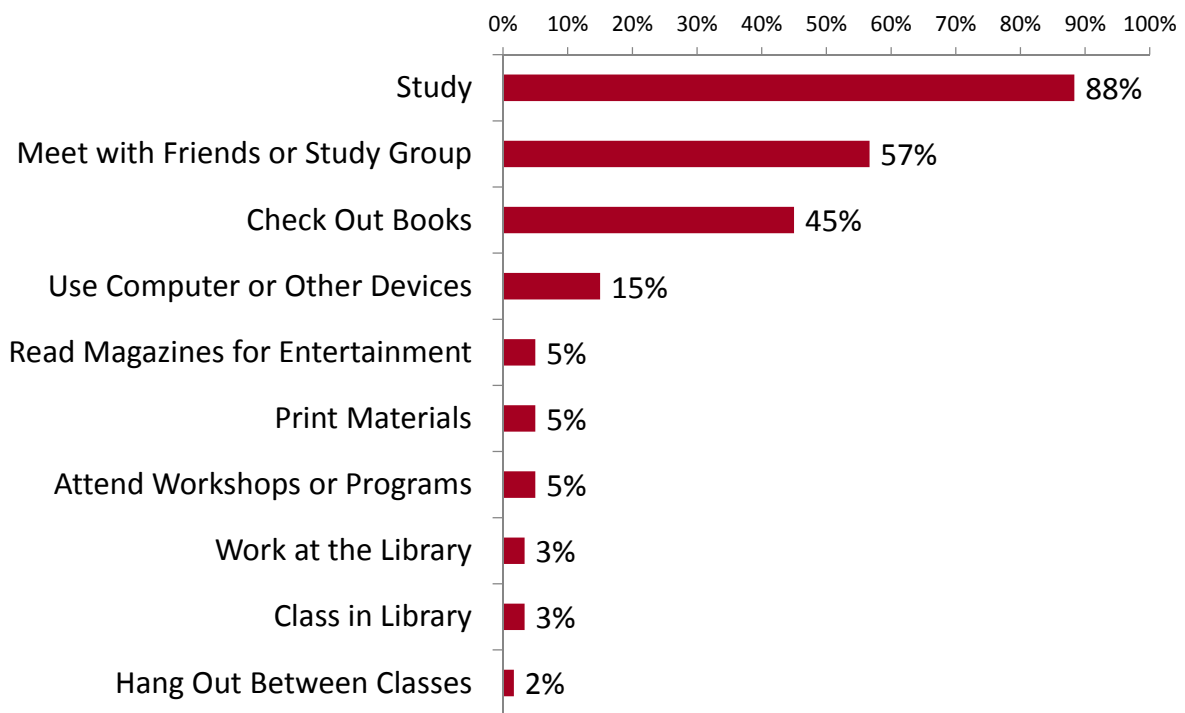
### Phase I



### Phase II



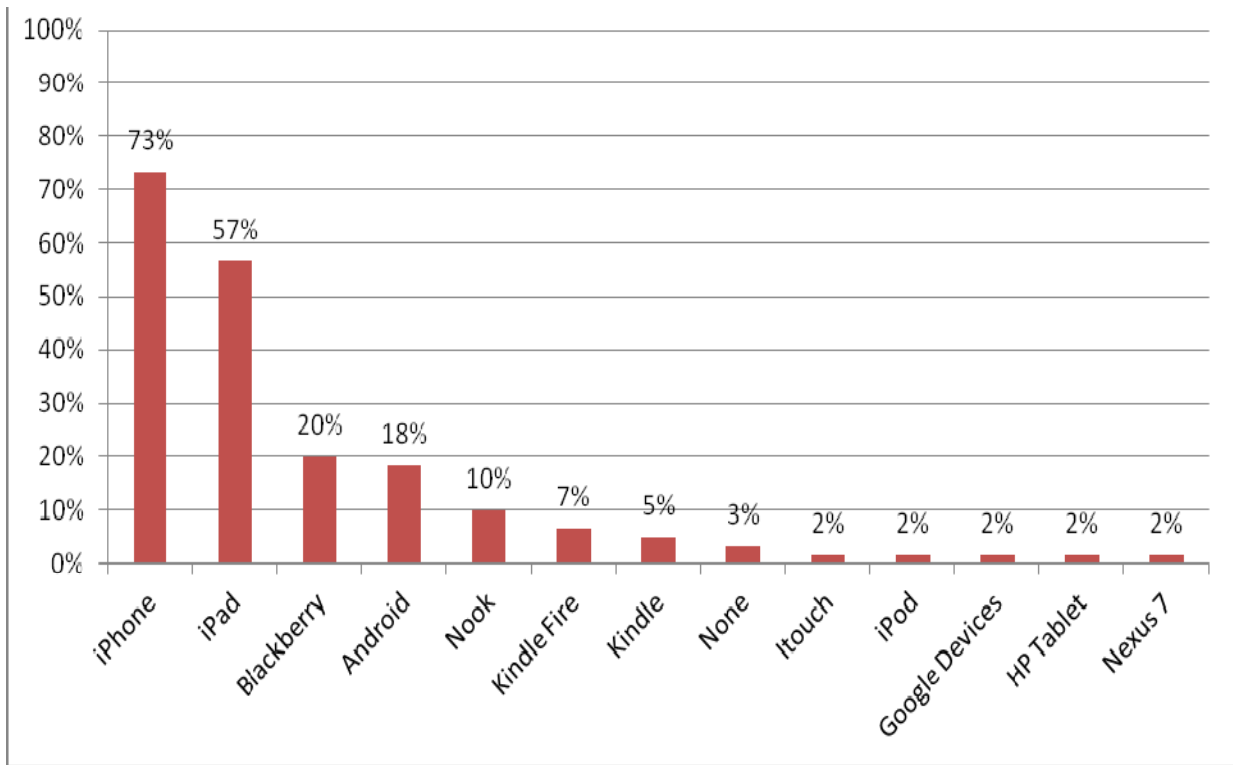
## Visit Library Purposes: Phase II Data



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## Touch Device Used: Phase II Data



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## Participants' rating: Phase I vs. II

	Phase I	Phase II
<b>Overall experience</b>	5.0	4.4
<b>Useful in learning library resources</b>	5.3	4.1
<b>Learning anything new about library resources</b>	Yes: 20 (69%) No: 9 (31%)	Yes: 53 (88%) No: 7 (12%)
<b>Percentages of gestures new</b>	21%	10%
<b>Percentages of features new</b>	43%	29%
<b>Likelihood of using LE in future</b>	4.9	3.8
<b>Likelihood of recommending to friends</b>	5.8	4.3
<b>Visit library more because of SUR40</b>	More: 6 (21%) Same: 23 (79%)	More: 5 (8%) Same: 55 (92%)

## Phase I Suggestions

- Integrate digital images into HOLLIS
  - Shelf-reading effect
  - Great with search and results management
  - Take snapshots of textbook pages
- Learning and work space
  - Support group interactive project
  - Secure with individual and personal work space and file management
- Function as a library desk

## Phase I Comments

- If you could have a way to **open HOLLIS as part of the screen**, and you pull whole HOLLIS records off to the side like a pile... you could pull up search, pull up individual items and sort them...
- I think one of the useful things about actually going to a library is being able to do **shelf reading** where you can find a book on the shelf, and then know what's around it.
- I want to see in the future a new way to **visualize** on the tablet **connections between book volumes** that are not apparent unless you are actually physically in the environment.

## Phase II Comments

- I am not sure whether it was possible to **download images from the internet**, in the event that the library does not have the image I am looking for...
- Or maybe a way to do like a **split screen** sort of thing for maybe you've got multiple documents you are working on or multiple people to work with to compare and contrast...
- If they have something for **recreational use** such as have a specific set of famous pictures like "this month's gallery," that will be cool

## Project Status: Phase II Collaboration Coding

- Each dyad will be coded by
  - **Collaboration profiles** (Shaer, Strait, Valdes, Fang, Lintz, Wang, 2011)
  - **Collaboration process dimensions** (Meier, Spada, & Rummel, 2007)
  - **Points of engagement** (O'Brien & Toms, 2008)

# Collaboration Styles

**Male & Male**



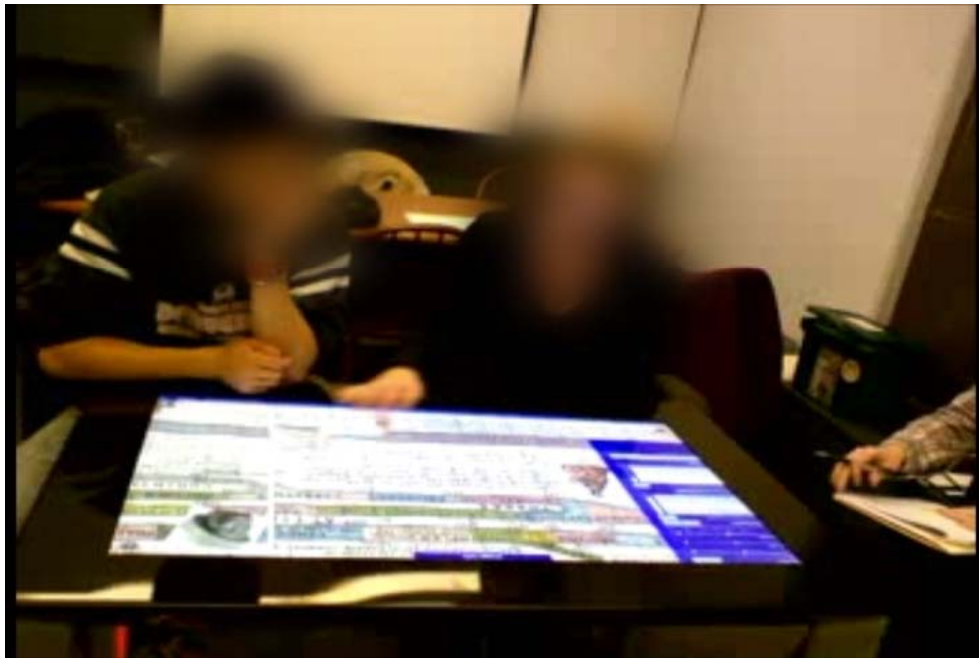
**Female & Female**



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## Collaboration Styles



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## People Involved

- Chris Erdmann, Wolbach Library
- Lynne Schmelz, Michael Leach, Susan Bestler, Cabot Library
- Phase I research assistants:
  - Michael Corbett, Lindsey Danis, and Xin He
  - Toshika Suzuki
- Phase II research assistants:
  - Elizabeth Quigley, Xiaoyan Song, Joan Hagler, Jeremy Guillette



**Stay tuned...  
Questions?**

**Thank You!**