

Killing two birds with one stone: how to conduct UX research during library instruction

Statewide Libraries Day - May 20, 2016

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Outline

Intersection of User Experience and Library Instruction

2 studies (Fall 2014 and Fall 2015)

For each we'll discuss...

- Research Questions
- Methods
- Brief Results
- Applications

Intersection of User Experience and Library Instruction

Definition of Learning

“knowledge or skill acquired by instruction or study”

“modification of a behavioral tendency by experience”

<http://www.merriam-webster.com/dictionary/learning>




Multidisciplinary Article Databases:
ProQuest Central
Academic Search Premier

Copiers

**Library
Instruction**

**User
Experience**



Study #1
FALL 2014

Research Questions:

1. When seeking information, how do students interact with the library website?

Browse vs. Search

Research Questions:

1. When seeking information, how do students interact with the library website?

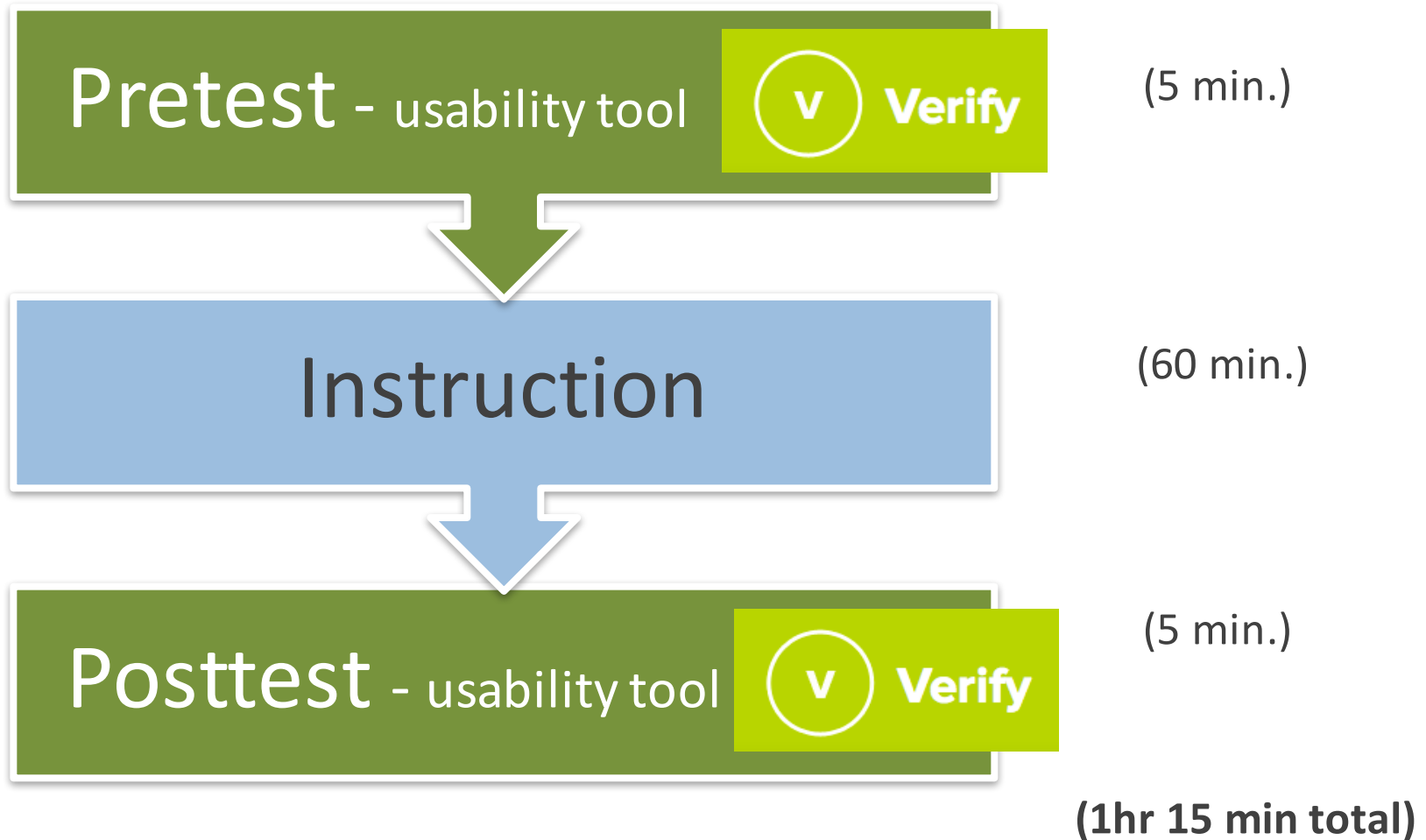
Browse vs. Search

2. In what ways does library instruction influence students' web behavior?

Methods

- **Study setting:** Library instruction
- **Sample:** Freshmen students in two separate sections of an intro to science course
- **Tool:** Verify usability tool
- **Method:** Pre & post test for comparison of two sections

Methods - Class outline



Methods – Sample pretest/posttest questions

Click on where would you go for...

- Finding a book whose title is “The psychology major: career options”...
- Accessing the “Academic Search Premier Database”
- Finding information about how to cite in APA format

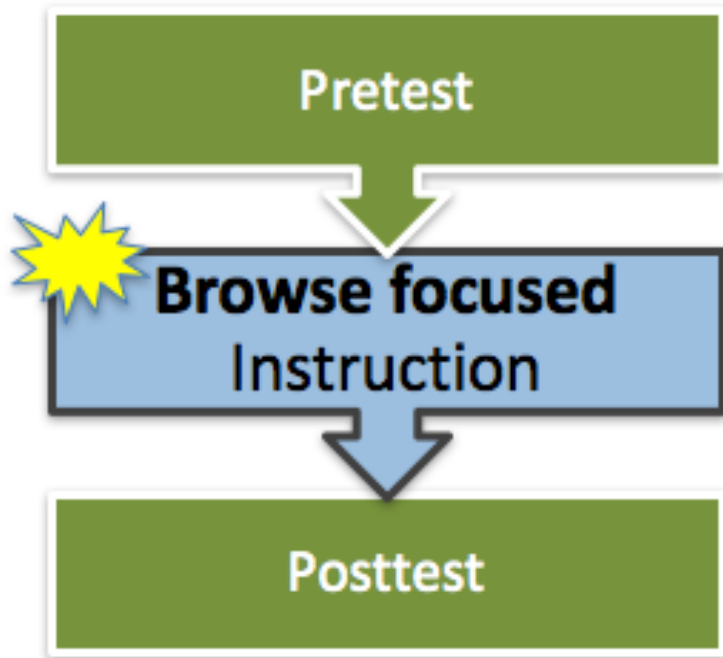
Methods – Sample pretest/posttest questions

Click on where would you go for finding information on...

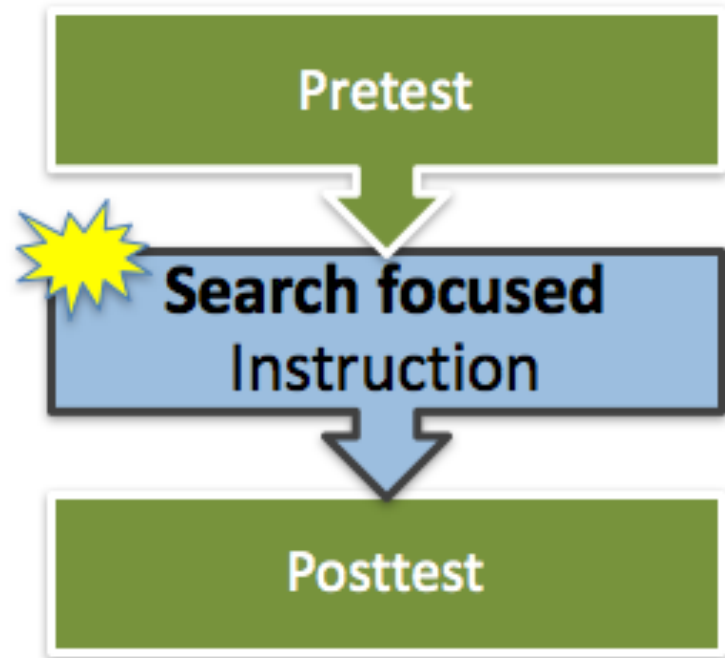
- group study room reservations
- Rich Media Cluster
- library hours

Method - Two groups

Class 1 (27 students) received
Browse Focused Instruction



Class 2 (21 students) received
Search Focused Instruction



Methods - What we tested: Browse-focused



INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS

CAN'T CONNECT?

University Library


 Site IUCAT

Research

1

[Find Articles & More](#)

2

[Find Books & More](#)

[Guides to Research](#)

[Information Literacy](#)

[Digital Scholarship](#)

Services

3

[Patron Services](#)

[Room Reservations](#)

[Interlibrary Loan](#)

[Faculty Support](#)

[Also in the Library](#)

Information

4

[About Us](#)

[Library Hours](#)

[Maps/Tours](#)

[Library Policies](#)

[Computers/Technology](#)

Other IUPUI Libraries

- Herron Art Library
- Ruth Lilly Special Collections & Archives
- Joseph & Matthew Payton Philanthropic Studies Library
- Ruth Lilly Medical Library
- IU School of Dentistry Library
- Ruth Lilly Law Library
- More Libraries...

IUCAT Search IUCAT



IUPUI University Library

You like this.

IUPUI University Library

3 hrs

Jaws is partial to the University Library Row Bots regatta team, featuring Dean David Lewis, especially considering our 9th place ranking!

I Don't Know

Support the Library

Ask A Librarian

Today's Hours:
7:30 am - Midnight

Available Computers:
97 out of 383

Follow Us :

Mobile Site :

Methods - What we tested: Search-focused



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University Library

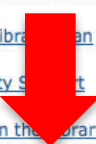

 Site IUCAT

Research

- [Find Articles & More](#)
- [Find Books & More](#)
- [Guides to Research](#)
- [Information Literacy](#)
- [Digital Scholarship](#)

Services

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 You like this.

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Tiananmen Square, 1989


Previously unseen photos of 1989 Tiananmen Square movement are online as an IUPUI digital collection.

1 2 3 4 5 6

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Methods – capturing user behavior



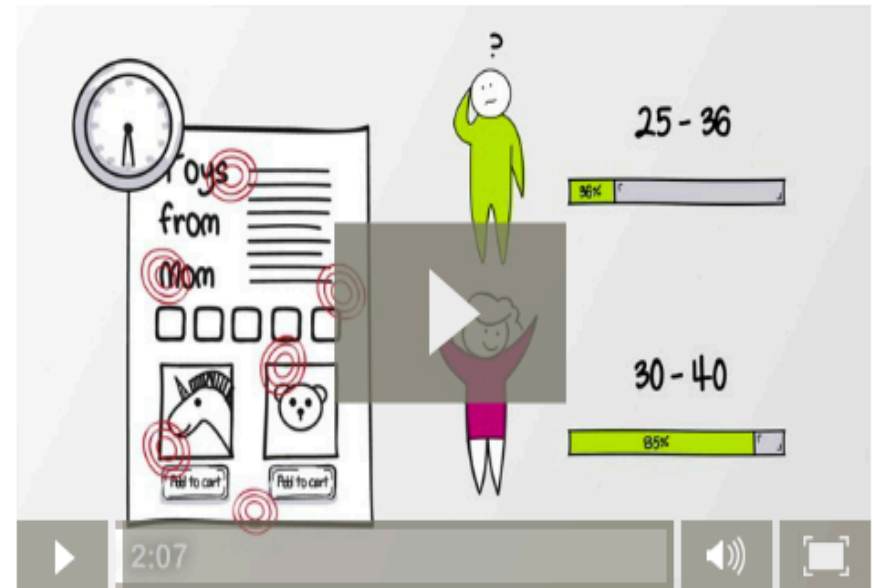
About Verify

Verify lets you test screenshots of your design work to gain valuable insights on your users' expectations and reactions to your apps and websites before writing a single line of code. Your team will love the great-looking, actionable, reports that will help them make informed design decisions.

Take a Tour

Number of Designers, Product Peeps and Companies Using ZURBapps

76,316



Learn about Verify in less than 2 minutes!

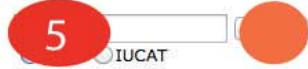
<http://verifyapp.com/>

Methods – capturing user behavior



INDIANA UNIVERSITY-PURDUE UNIVERSITY INDIANAPOLIS

CAN'T CONNECT?



University Library



Research

- Find Article **8**
- Find Books & More
- Guides to Research
- Information Literacy
- Digital Scholarship

Services

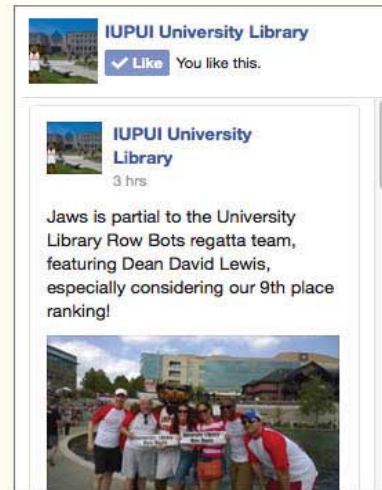
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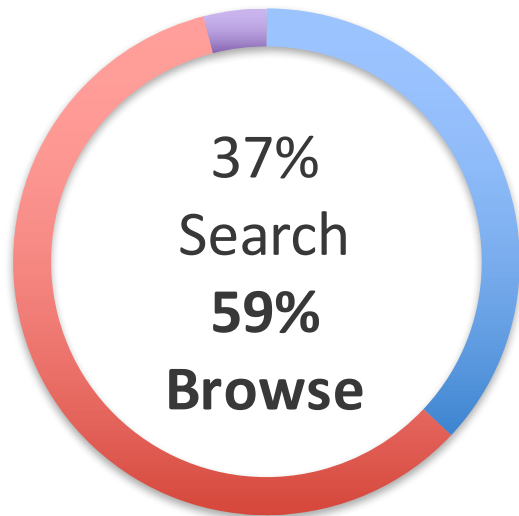


- Ask A Librarian
- Today's Hours: 7:30 am - Midnight
- Available Computers: 97 out of 383

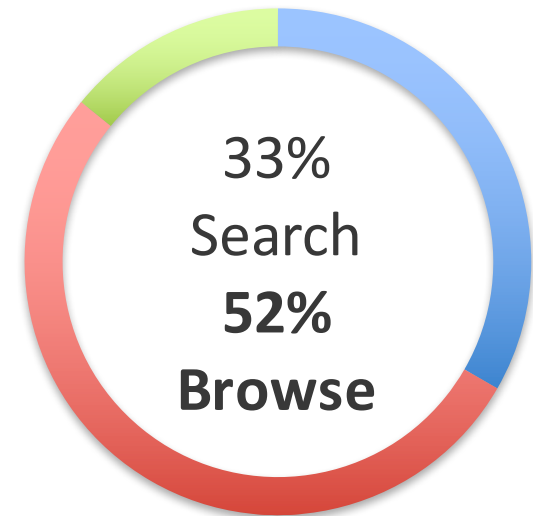
Results - Browse VS. Search

Before instruction – Specific Database: Academic Search Premier

Browse Focused
Instruction



Search Focused
Instruction

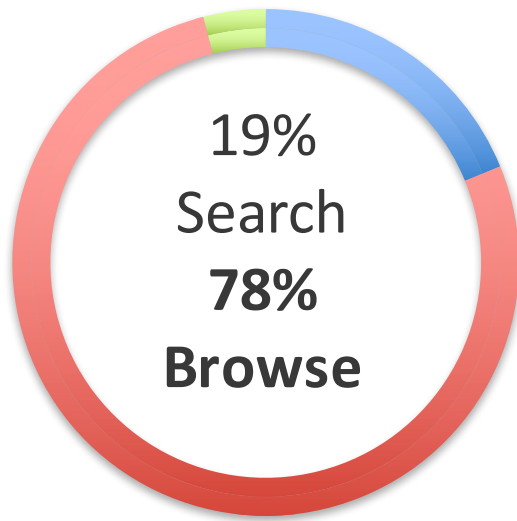


- Search
- Browse
- I don't know
- Anywhere

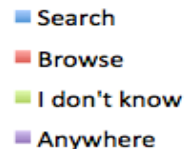
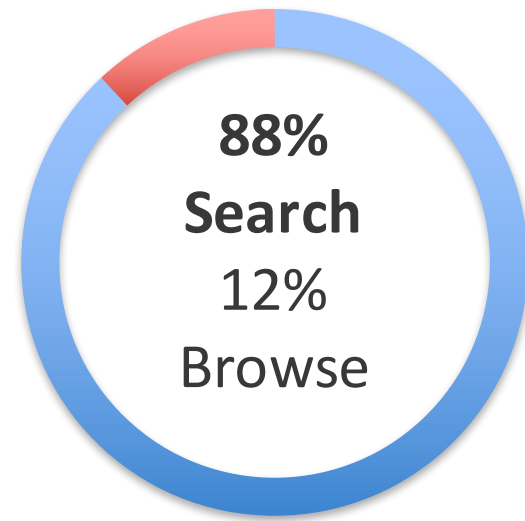
Results - The Role of Instruction

After instruction – Specific Database: Academic Search Premier

Browse Focused
Instruction



Search Focused
Instruction

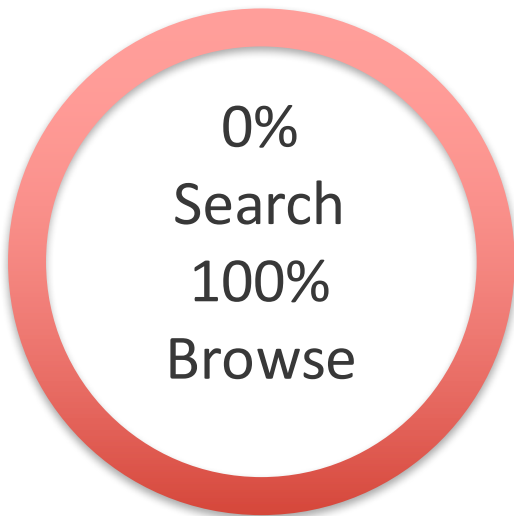


Results -

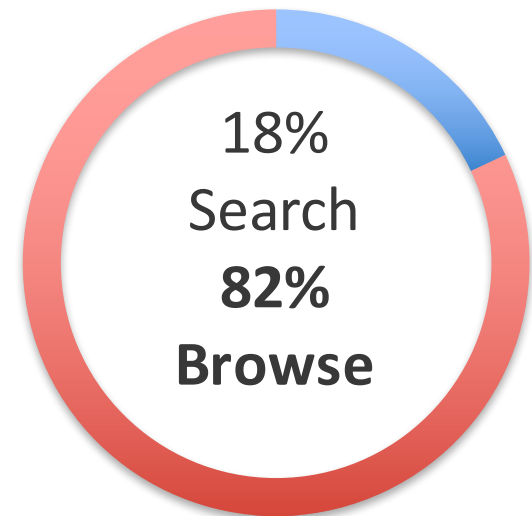
Books in General

Search Focused Instruction

Before Instruction



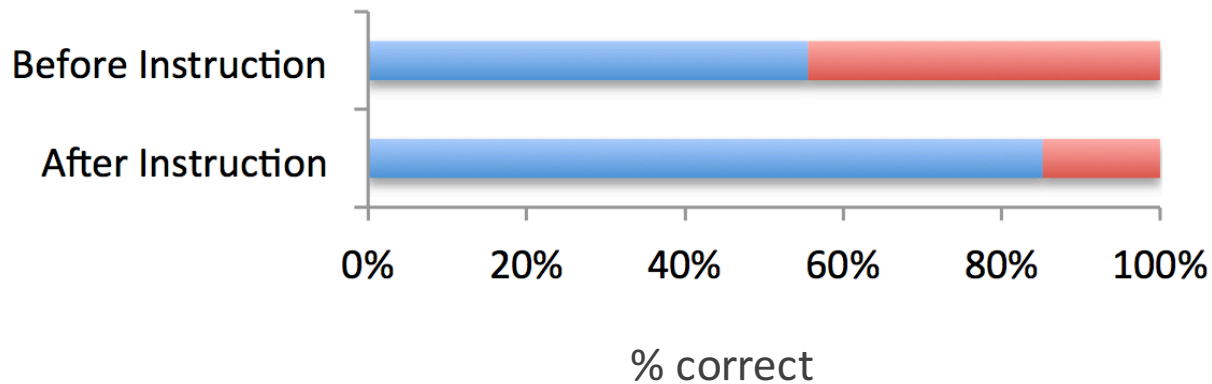
After Instruction



- Search
- Browse
- I don't know
- Anywhere

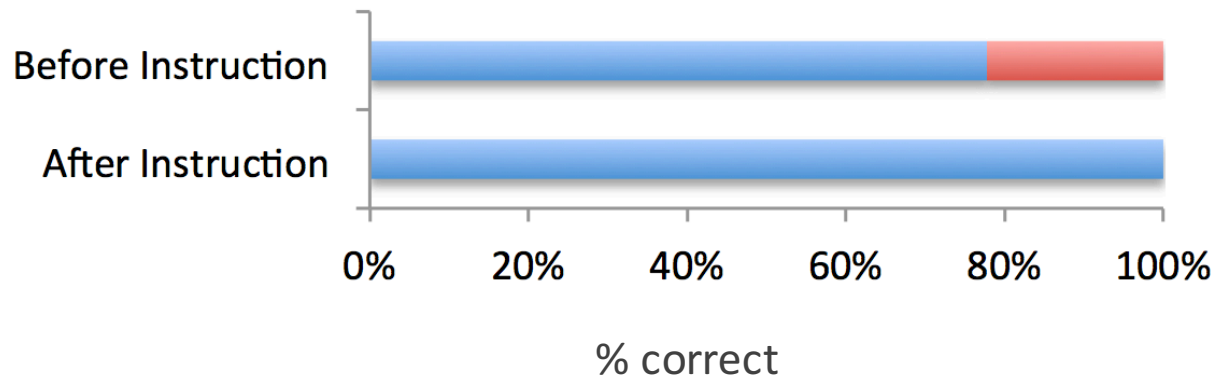
Assessing instruction

Database - Academic Search Premier



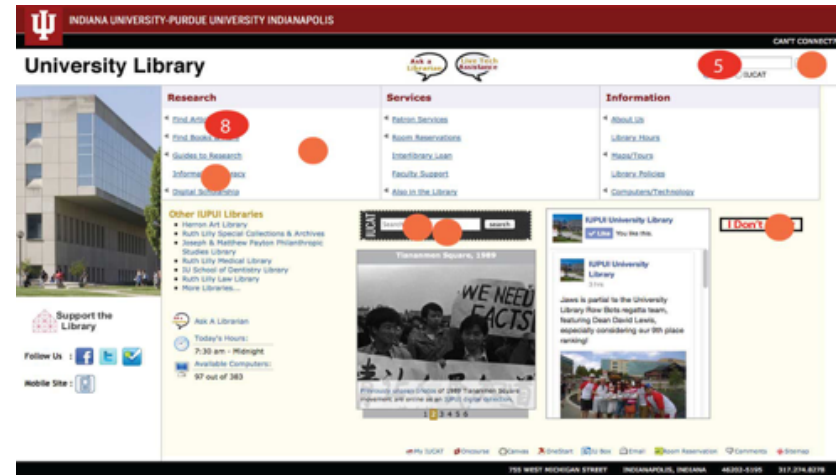
Assessing instruction

eBook - Specific title



Verify tool - strengths

- tracks where students click on a website
- simple and quick

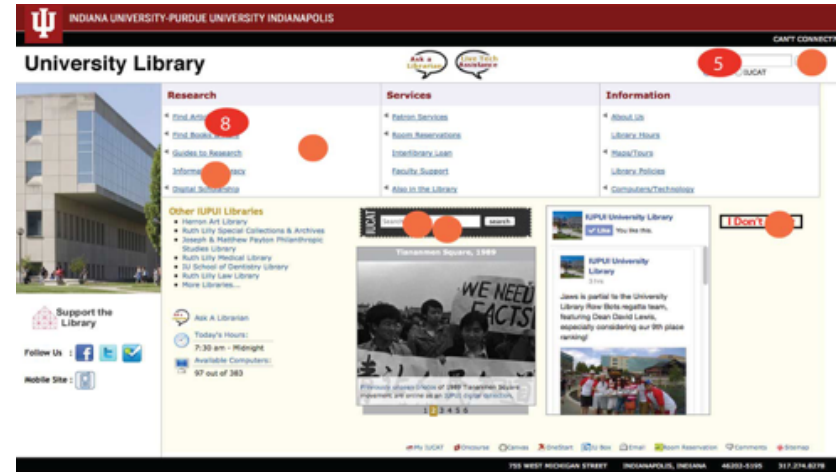


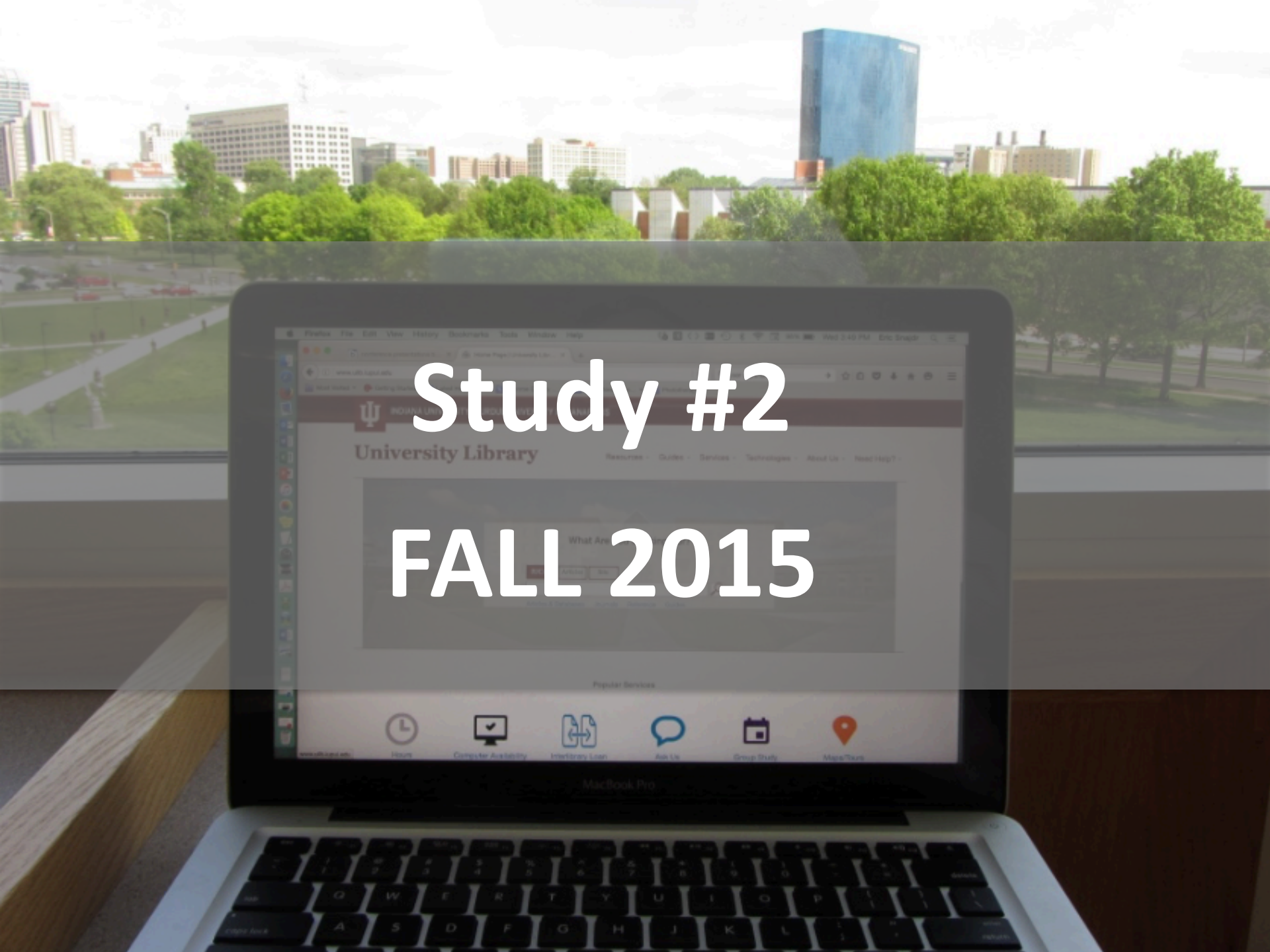
(students were able to do 20 tasks in 5 min.)

- compiles a summary report of clicks for all students for each information seeking task
- discover where students are attempting correct or incorrect pathways to resources

Verify tool - weaknesses

- \$\$\$
- static screen shot interface
- cannot track student behavior through a series of pages
- cannot track pathway of menu items



A photograph of a laptop on a desk with a cityscape in the background. The laptop screen shows a web browser with the University Library website. The text 'Study #2' and 'FALL 2015' is overlaid on the screen. The background shows a city with a prominent blue skyscraper and green trees.

Study #2

FALL 2015

Research Questions

- Measure overall UX evaluation
- Measure overall task performance
- Difference between what students said and what they did?
- Library instruction affects UX? If so, what ways?

Methods

Study setting: Library instruction

Sample:

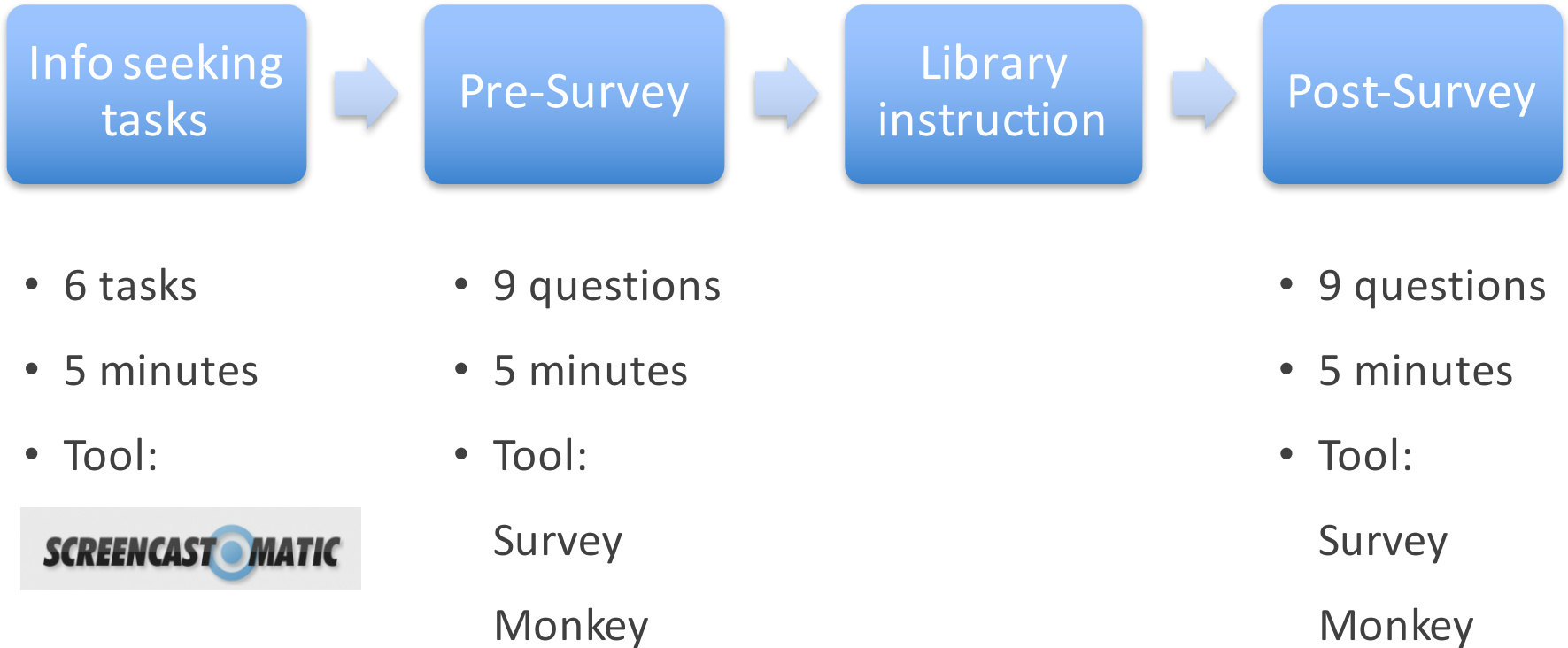
- 9 separate science classes
- Freshman through senior
- Total participants: 213 students

Tool:

The logo for Screencastomatic, featuring the word "SCREENCAS" in bold black letters, a blue circular icon with a white center, and the word "MATIC" in bold black letters, all on a light gray background.

SCREENCAS  **MATIC**

Methods



Methods – Information seeking tasks

- Find information on how many books you can borrow.
- Find your subject guide.
- Find information about the 3D Printing Studio.
- Where would you go when you don't know where to start on your research project?
- Find one scholarly article in your major.
- Find one database in your major.

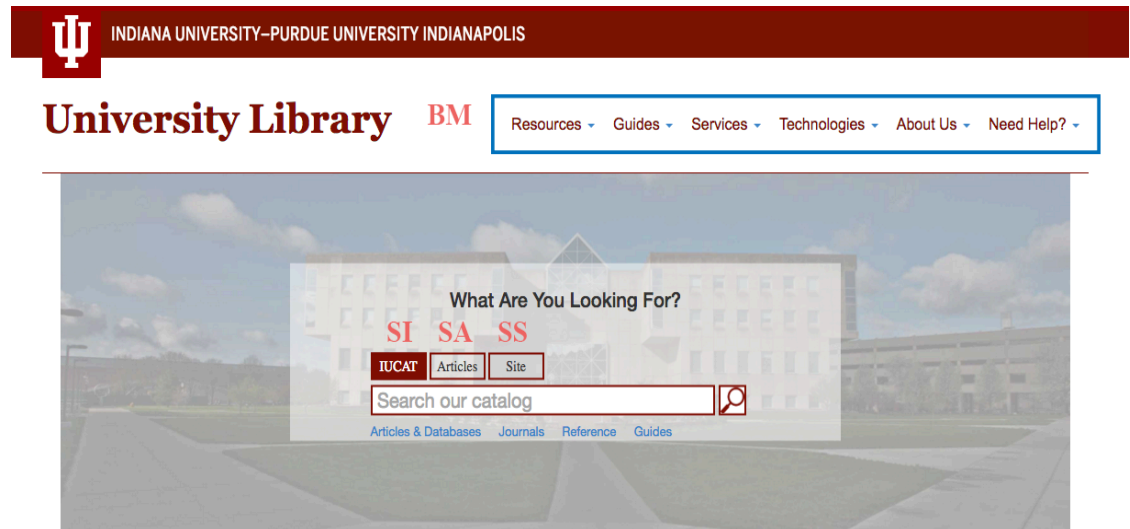
Methods

The image shows a composite of two screenshots. The top right portion is the website's header, featuring the 'SCREENCASO-MATIC' logo, navigation links for 'Home', 'Tutorials', and 'Support', and buttons for 'Login' and 'Sign Up'. Below the header is a large heading 'Fast, free screen recording' followed by a sub-headline: 'Screencast-O-Matic is trusted by millions of users to create and share screen recordings.' A prominent blue button labeled 'Start Recording' is positioned below the text. The bottom left portion of the image shows the software's recording control panel. It includes a 'Record' button, three source selection options: 'Screen', 'Webcam', and 'Both', a 'Max Time' slider set to 00:15:00, a 'Size' dropdown set to 720p, a 'Narration' section with a volume indicator and microphone icon, and a 'Computer Audio' section with a volume indicator and speaker icon. A 'Preferences...' button is at the bottom of the panel. A red 'REC' indicator and a timer showing '00:00' are visible at the very bottom left.

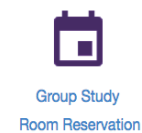
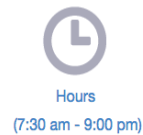
<https://screencast-o-matic.com/home>

Methods – Data coding

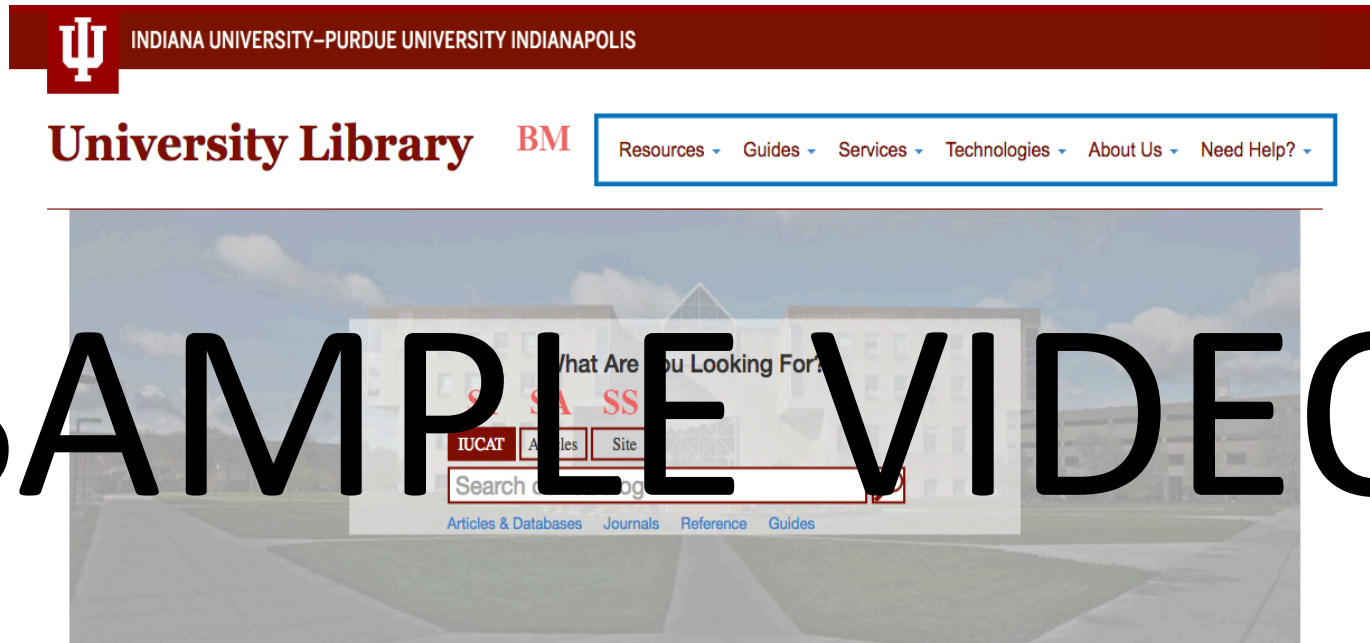
- Task:
 - Correct
 - Incorrect
 - Skip
 - Non complete
 - Title of the page
- Behavior
- # of Steps
- Time



Popular Services



Methods



Popular Services

- 
Hours
(7:30 am - 9:00 pm)
- 
Computer Availability
- 
Interlibrary Loan
- 
Ask Us
- 
Group Study
Room Reservation
- 
Maps/Tours

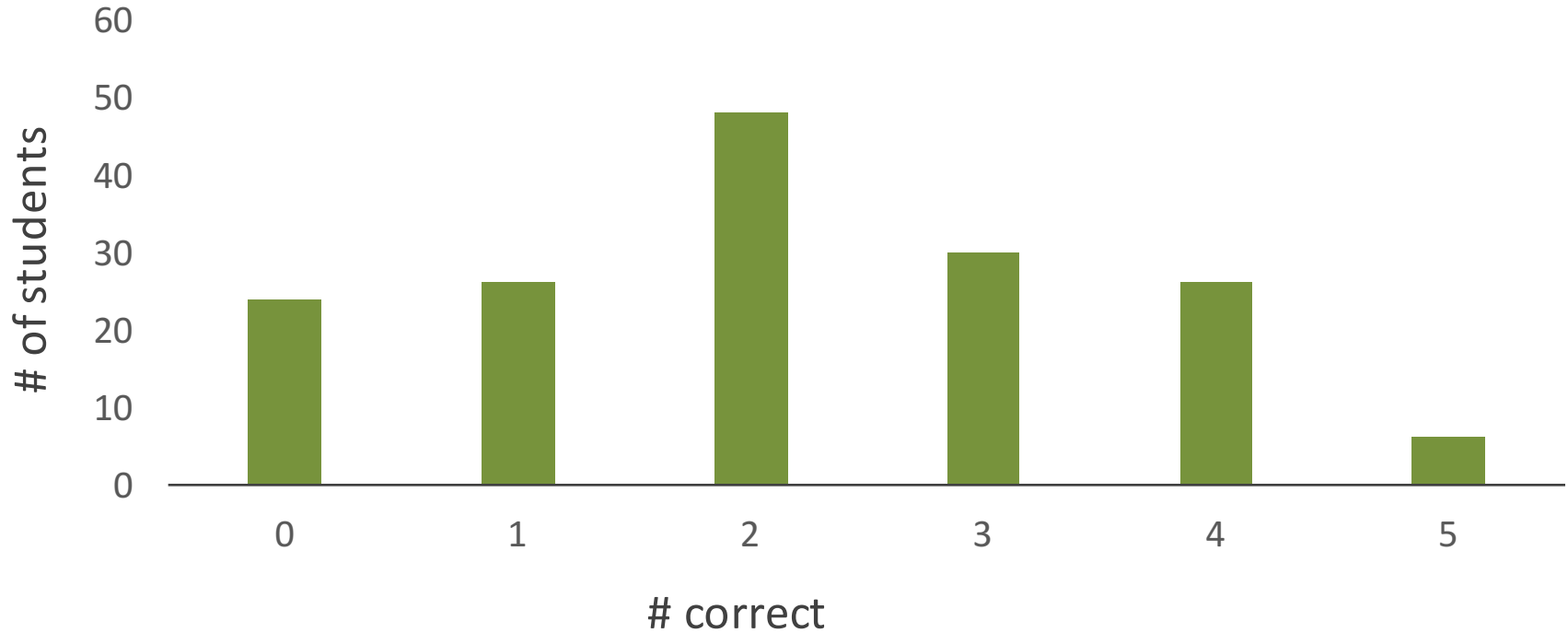
Results

Valid data: 160 students (213 original participants)

- Over 18 years old
- Completed all four: tasks/ pre&post surveys/ instruction
- 107 lower level students
- 53 upper level students

Results - Overall Task Performance

Correct answers



Data sets: All

Results - Overall Task Performance

Overall Task Performance

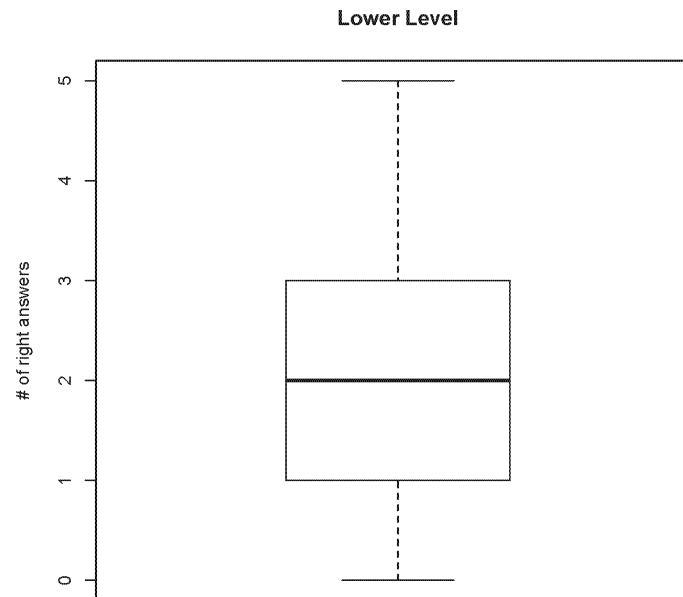
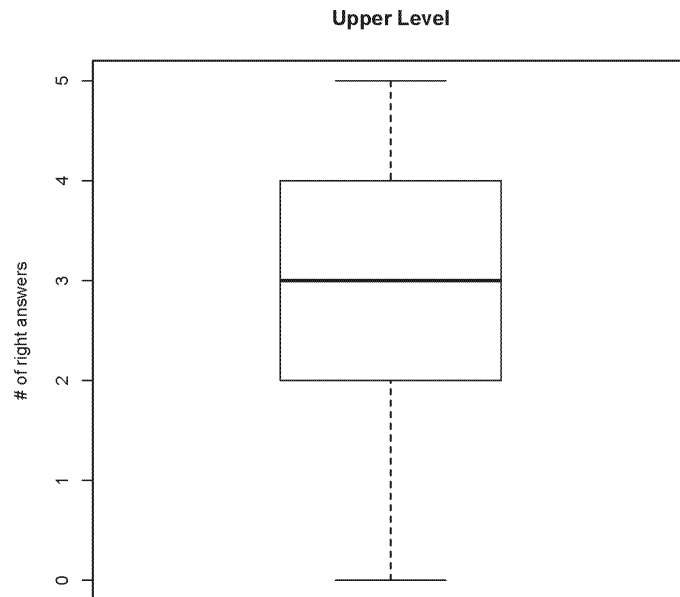
Mean of Upper: 2.77

Mean of Lower: 1.86

P-value: 0.0001851

Upper Level Students

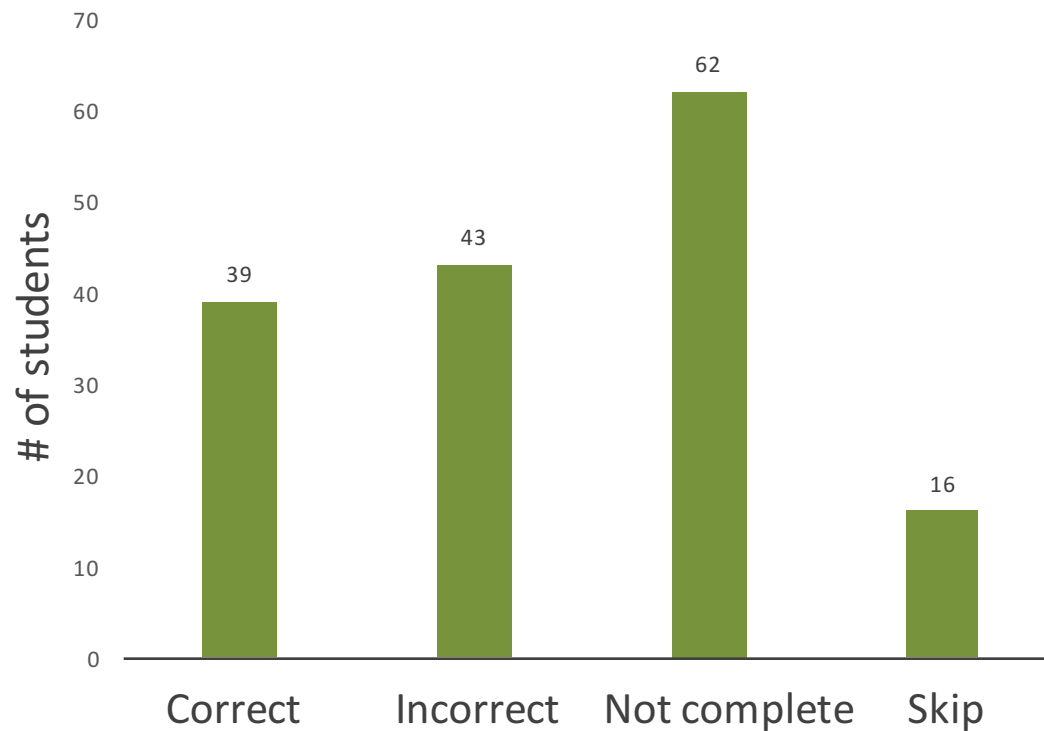
Lower Level Students



$\alpha = 0.05$

Results – Overall Task Performance

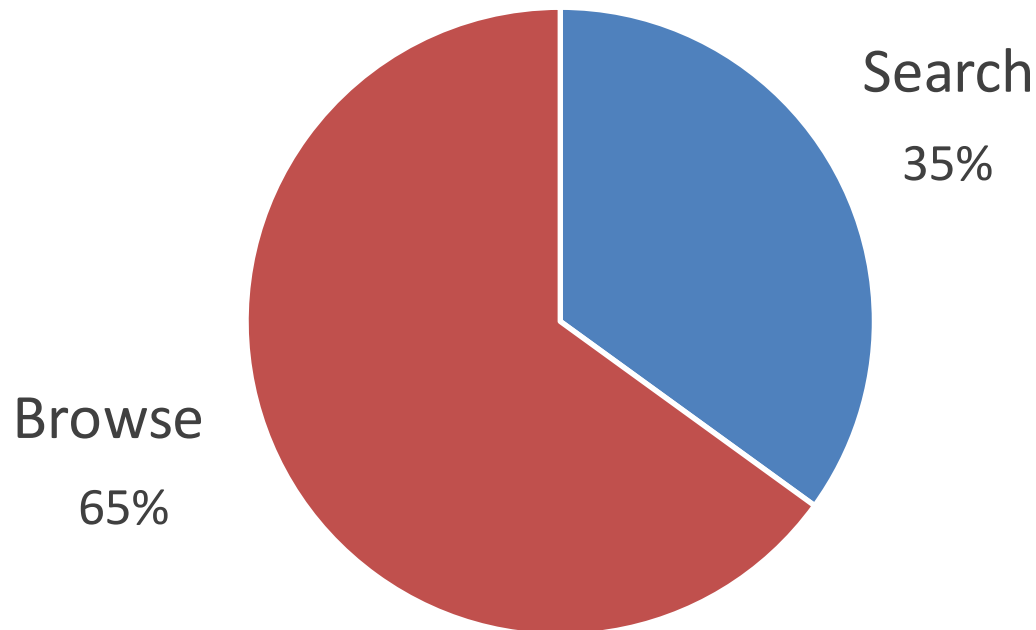
Using the Library website, find one scholarly article in your major.



Data sets: All

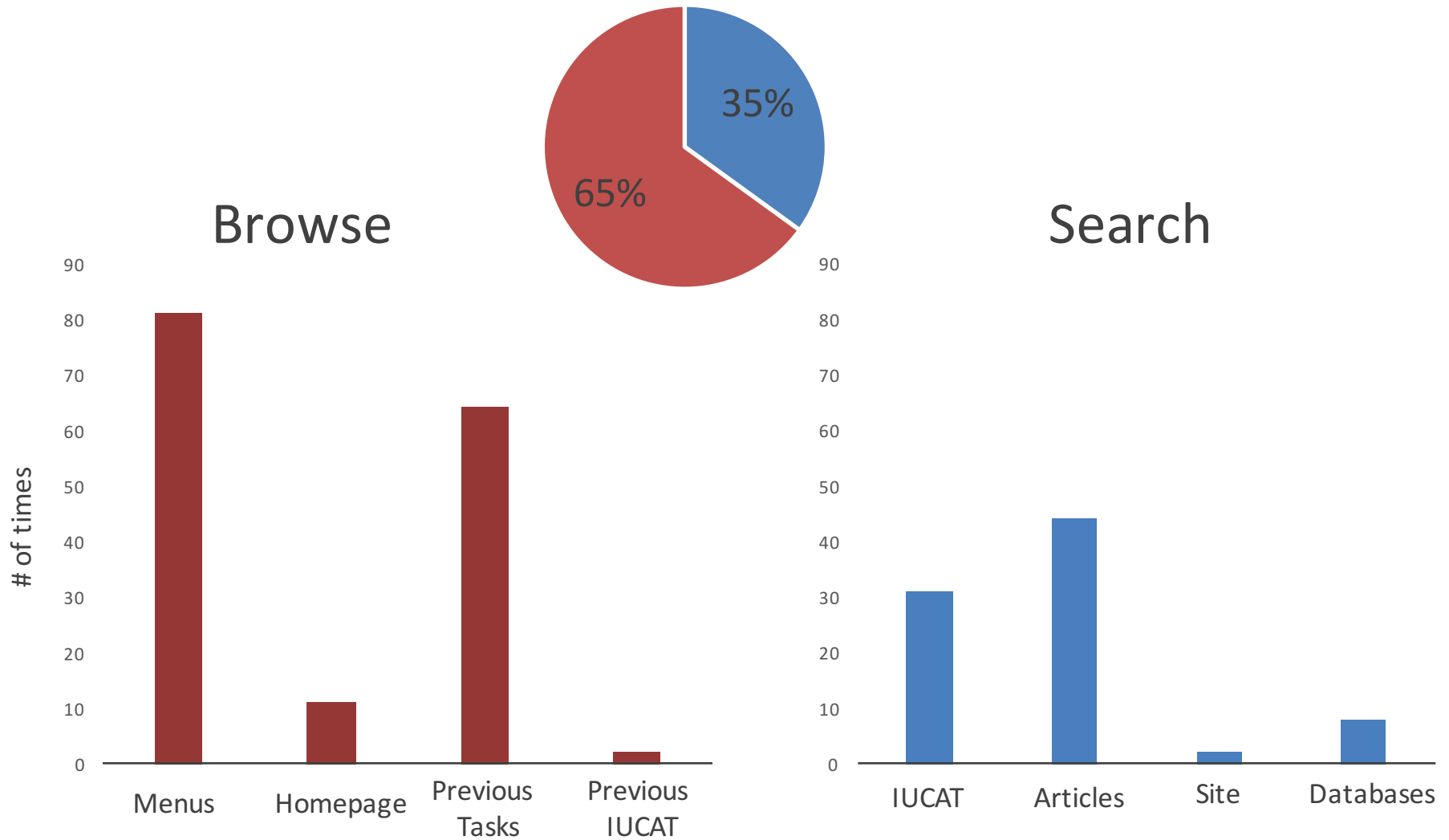
Results – Overall Task Performance (Behavior)

Using the Library website, find one scholarly article in your major.



Results – Overall Task Performance (Behavior)

Using the Library website, find one scholarly article in your major.



Results – Role of Library Instruction in DUX

Positive Aspects

— Before — After

5: Strongly agree

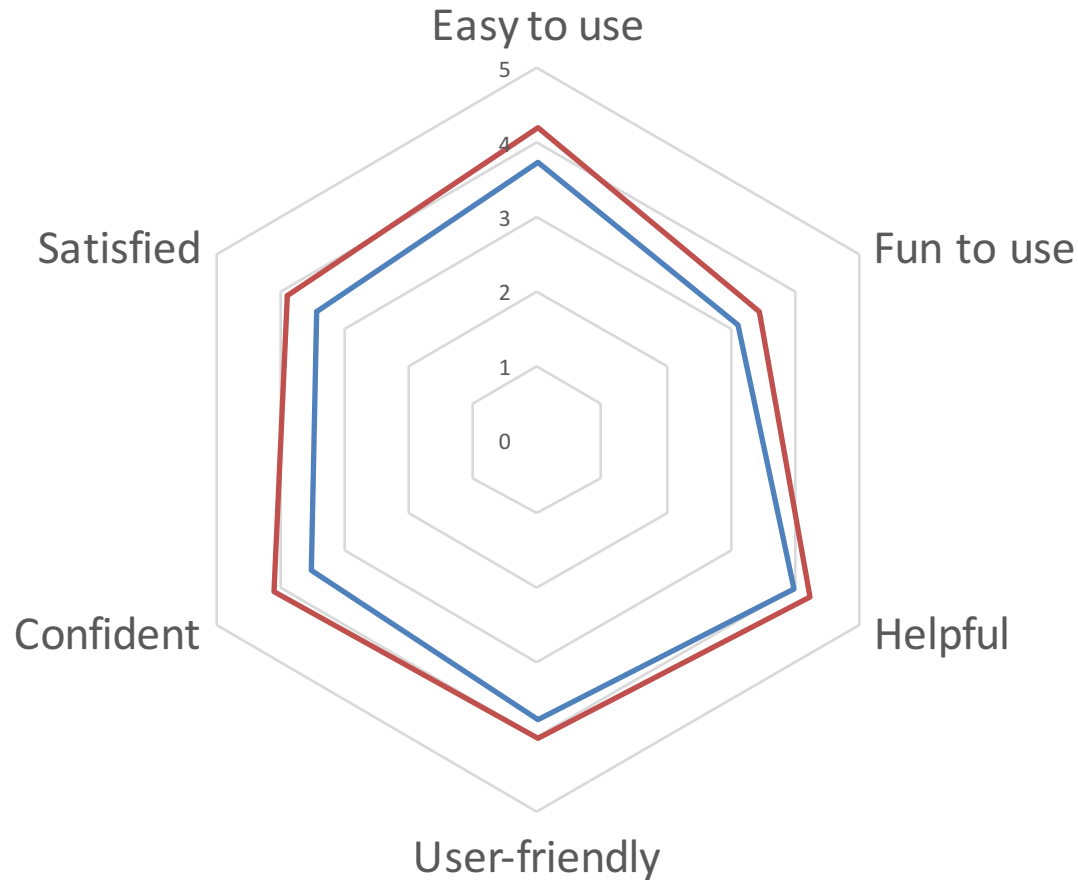
4: Agree

3: Neither agree nor disagree

2: Disagree

1: Strongly disagree

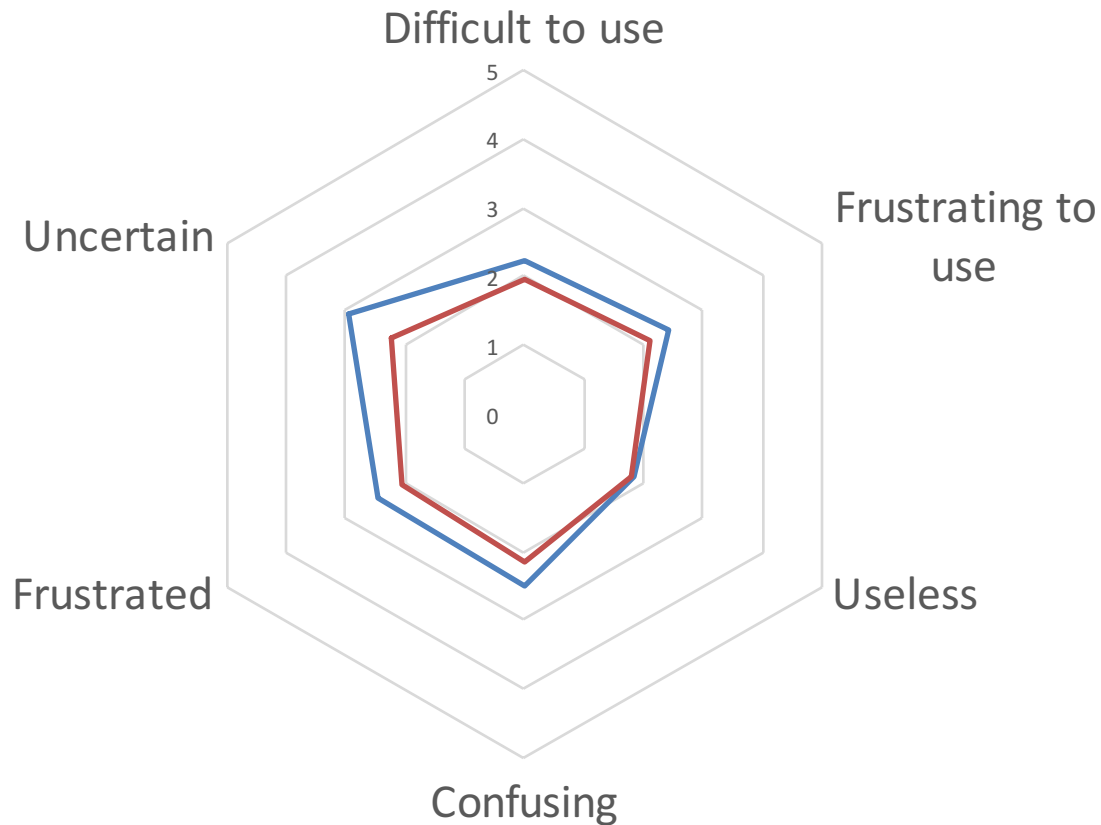
0: N/A



Results – Role of Library Instruction in DUX

Negative Aspects

— Before — After



5: Strongly agree

4: Agree

3: Neither agree nor disagree

2: Disagree

1: Strongly disagree

0: N/A

Screencast-O-Matic strengths

- Records video file including sound)
 - all behaviors on screen are captured
 - captures mouse movement
- Free (15 minute time limit for free version)

For instruction

- Easily see what students are doing correctly/incorrectly
- Identify major pitfalls

Screencast-O-Matic weaknesses

- Videos time consuming to analyze (we had over 200 to watch and code)

For instruction

- Organization/set up
- Takes class time
- Obtaining teacher and student consent

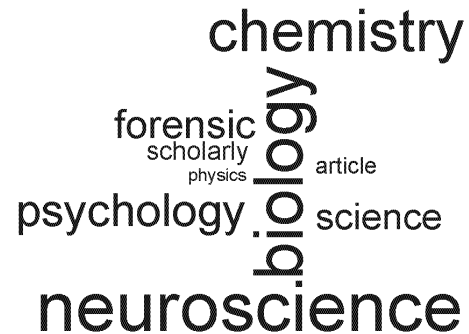
Discussion

Students report confidence when completing information seeking tasks,
However, their task performance does not display this trait.

Discussion

Particularly, students had trouble locating a scholarly article

Search terms were simplistic (one or two words)



Discussion

Results provide reinforcement of importance of library instruction

For example, many students struggled to locate a database in their major and most students had difficulty locating a single article.

3 key areas...

- Concepts – example: what is a scholarly article?
- Pathways to information – libguides, databases
- Skills – search strategies

Questions?



Thank You!

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