



Usability Study of Web Indexes at an Academic Institution

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Presentation Overview

Why Study User
Behavior?

Prior Research

State of Web
Indexes

Research
Methodology/Results

Where Do We Go
From Here...



Why Study User Behavior?

- To see if users' expectations are the same as indexers'
 - Investigate problems and challenges of Web-based indexes
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Prior Research

Only a handful of academic studies have been dedicated to index usability.

- Carol Hert's (2000) study published in *JASIS* focuses on Web index usability.
 - Jörgensen and Liddy's (1996) study published in *The Indexer* on the usability of print indexes.
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State of Web Indexes

- There are a relatively small number of Web indexes.
 - Web indexes lack consistency in structure, style, and even in name!
 - Indexes are often Site Maps.
 - Search & Browse are the most common techniques. What about the index!?!
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Structure and Style

- FedStats (btb index)
 - ColorCoded (btb index)
 - DocBook (xml/xsl generated)
 - e-Book
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Study Overview: Research Question

Do back-of-the-book style indexes on library Web sites improve user precision and speed for finding information?



Study Overview: Specific Questions

- If a library Web site contains an index, will users utilize the index?
 - Do users know what a Web site index is?
 - Do library Web site indexes increase the speed with which users find information?
 - Do library Web site indexes help users find information?
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Methodology: Index Selection Criteria

Based on Browne & Jermey's application of Nielson's usability heuristics.

- **Visibility of system status.** Make sure the link to the index is visible.
 - **Consistency and standards.**
 - **Flexibility and efficiency of use.**
 - **Aesthetic and minimal design.**
 - **Help and documentation.**
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Indexes Selected

- [home page][index]
 - [home page][index]
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Sample

- Pilot study: 20 participants
 - Voluntary participation, solicited from university library users and other UAF students, faculty, and staff.
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Software

Sessions were recorded using Camtasia Studio, a product that records your computer monitor's screen, mouse movements/clicks, and audio.



Methodology: The Actual Session

- Participants viewed each Web site in random order.
 - For the 1st site, any method of navigation was allowed.
 - For the 2nd site, only the index was allowed.
 - For each site, participants were asked the same three questions.
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Questions

Questions were asked in random order.

- For how long can an undergraduate keep a book checked out?
 - Does the library have any job openings?
 - Who would you contact if you wanted to give books or money to the library?
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Exit-Interview Questions

- Have you ever used an online index, like the index you just used?
 - Which method of finding information do you think you were you most successful?
 - Did you know what an index was before this study?
 - After this study, are you more likely to use an online index? If so, in what situations would you use the index?
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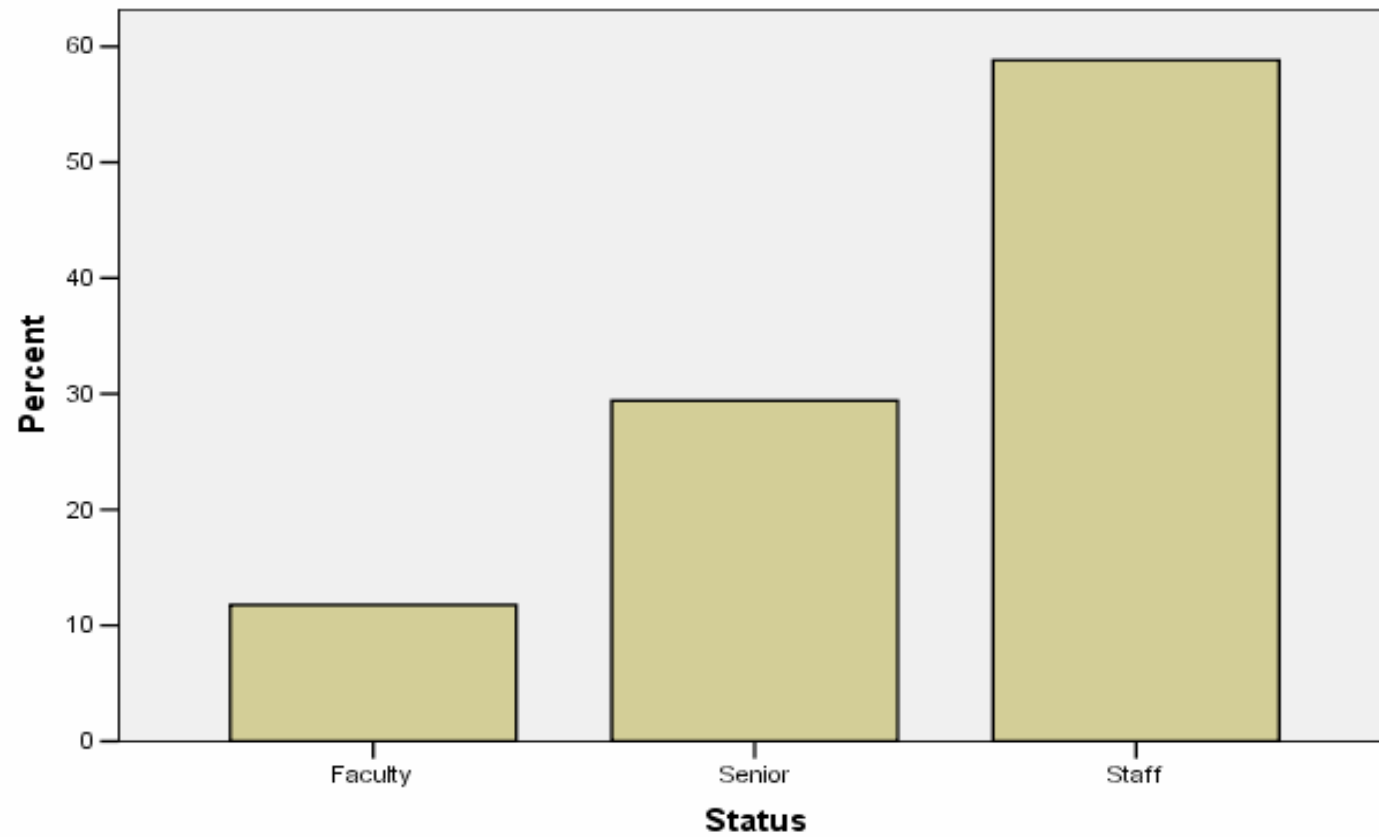


What is it called?

- Site Index
 - A-Z Index
 - A-Z
 - About the Library A-Z
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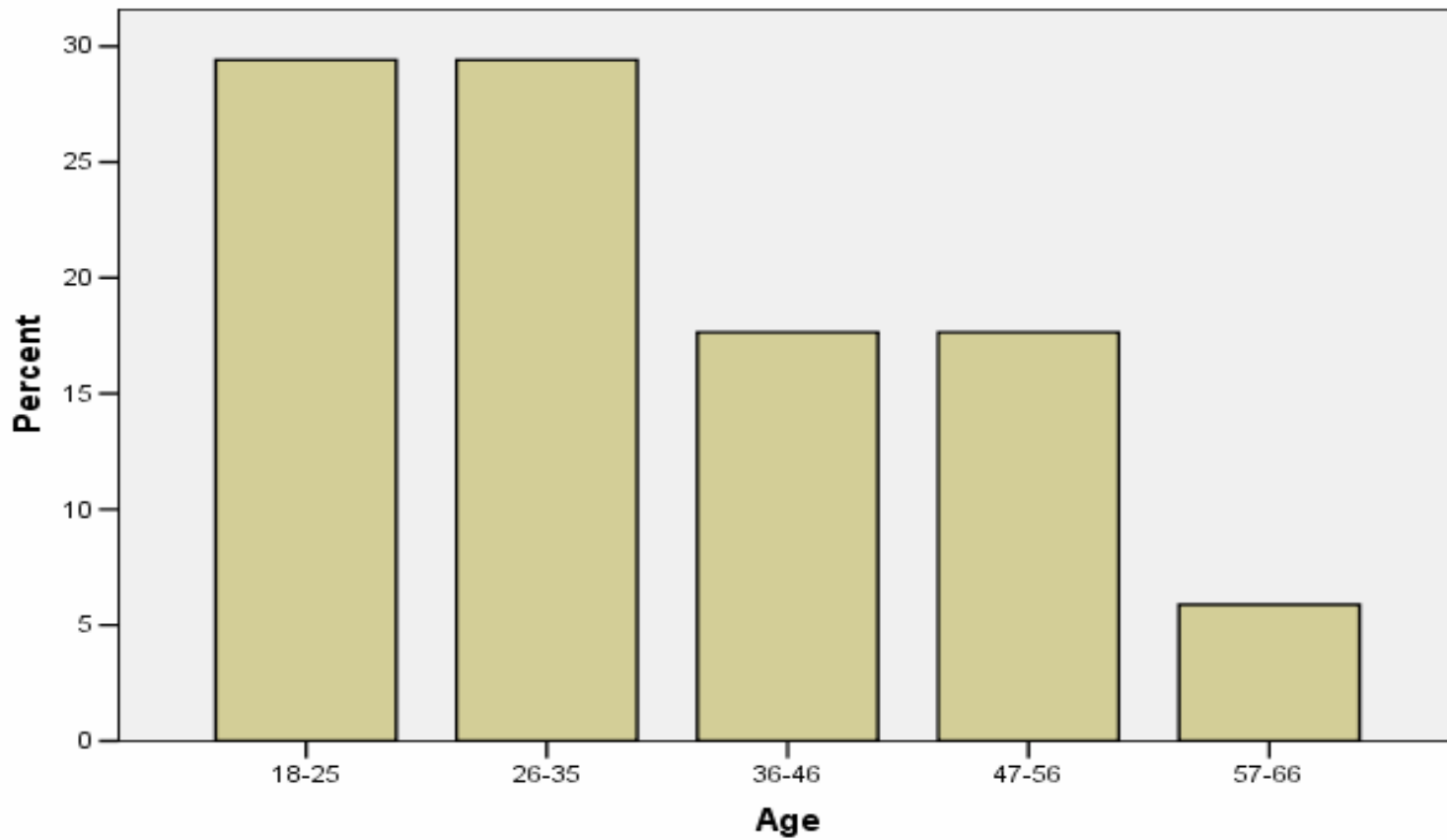


Demographics: Status



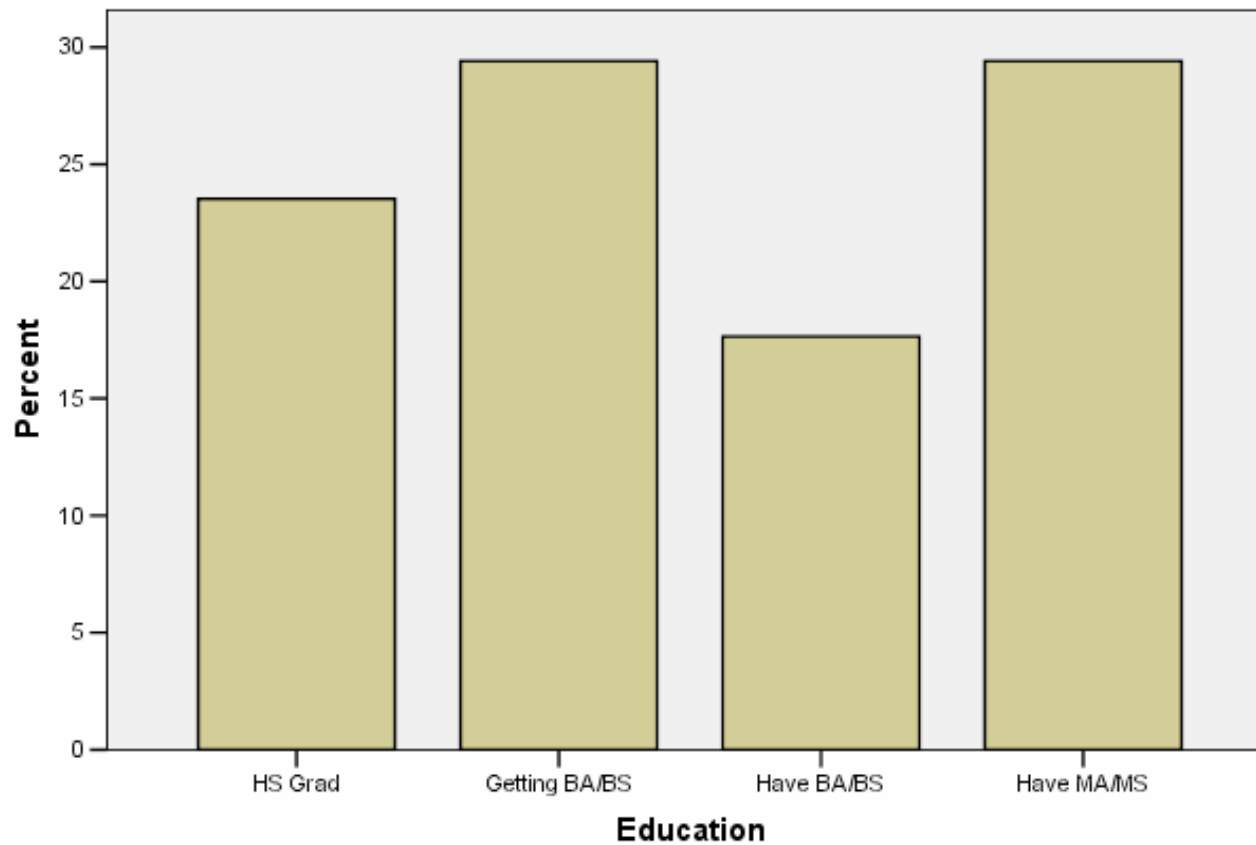


Demographics: Age



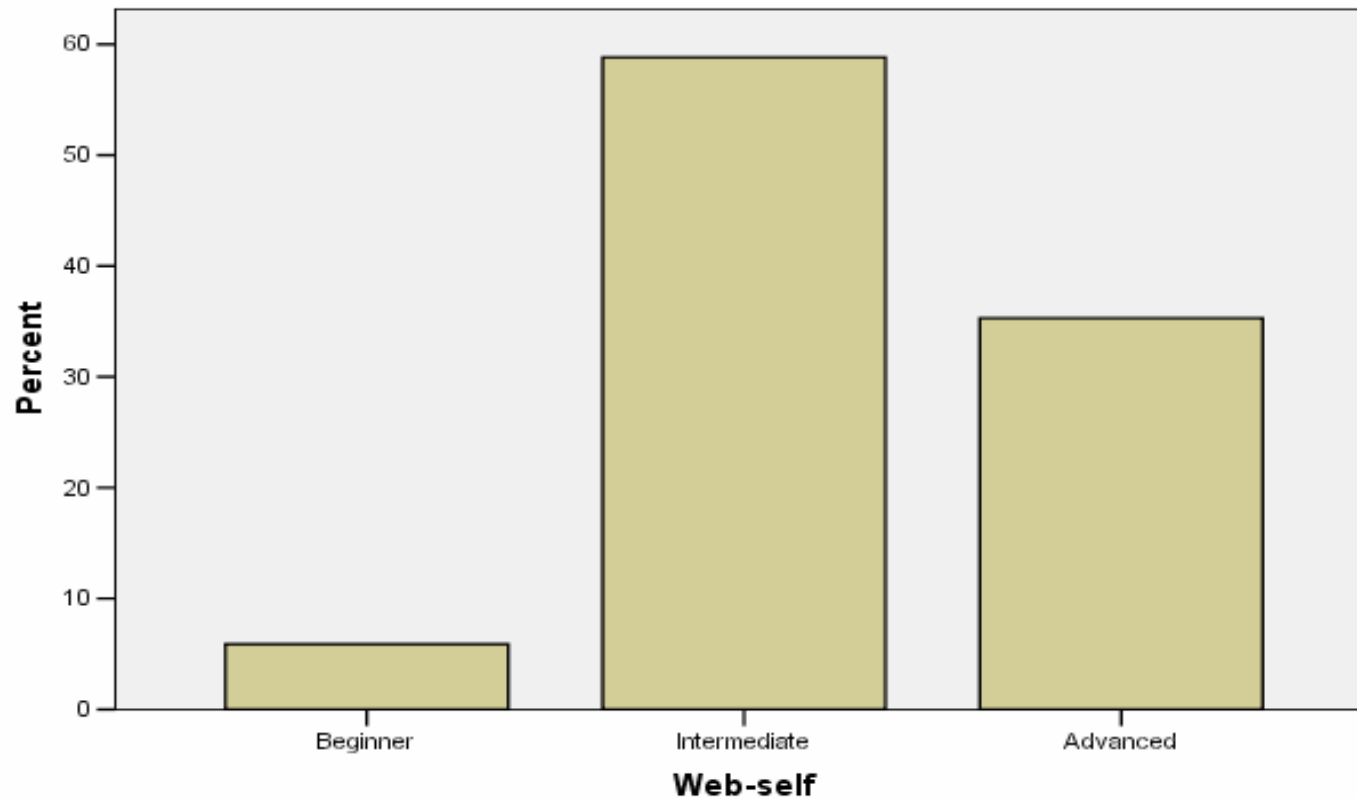


Demographics: Education



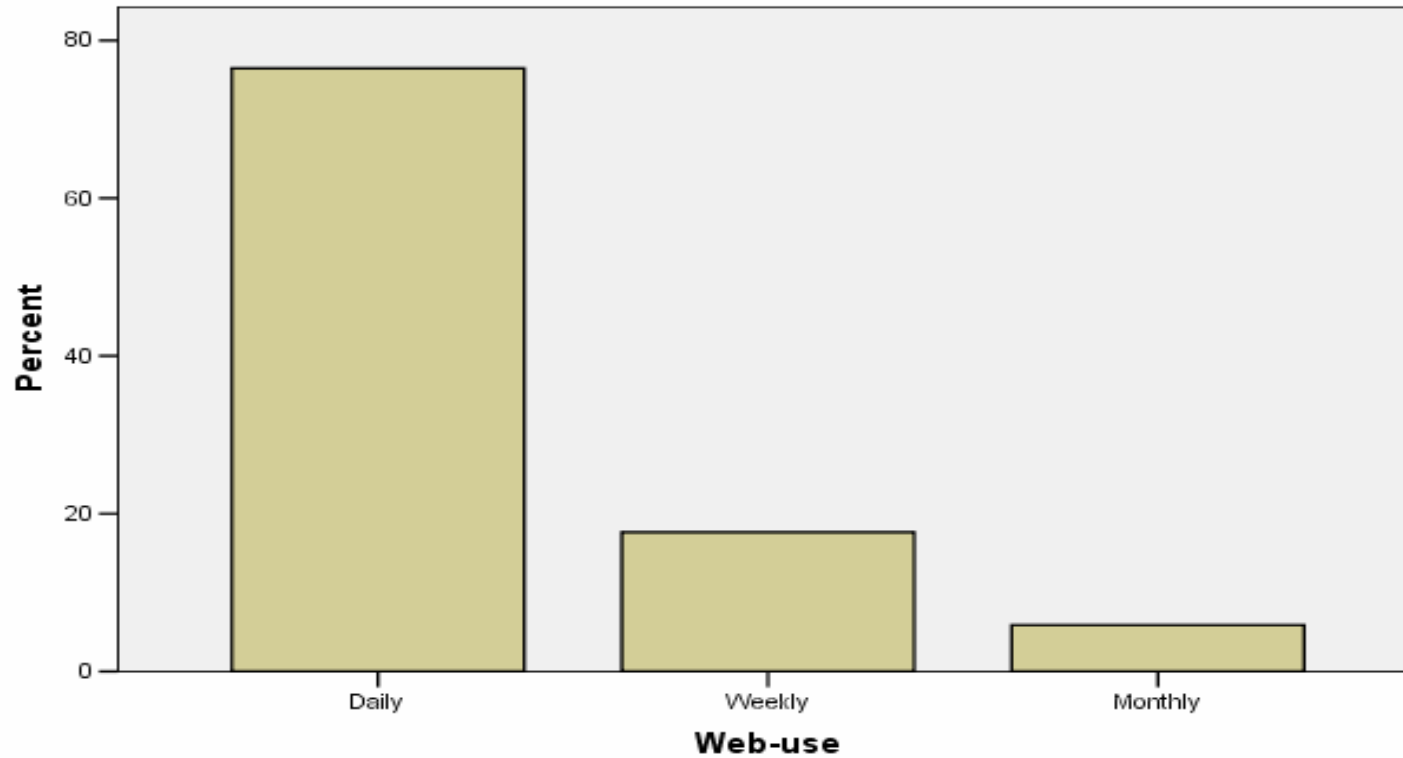


Demographics: Web Expertise



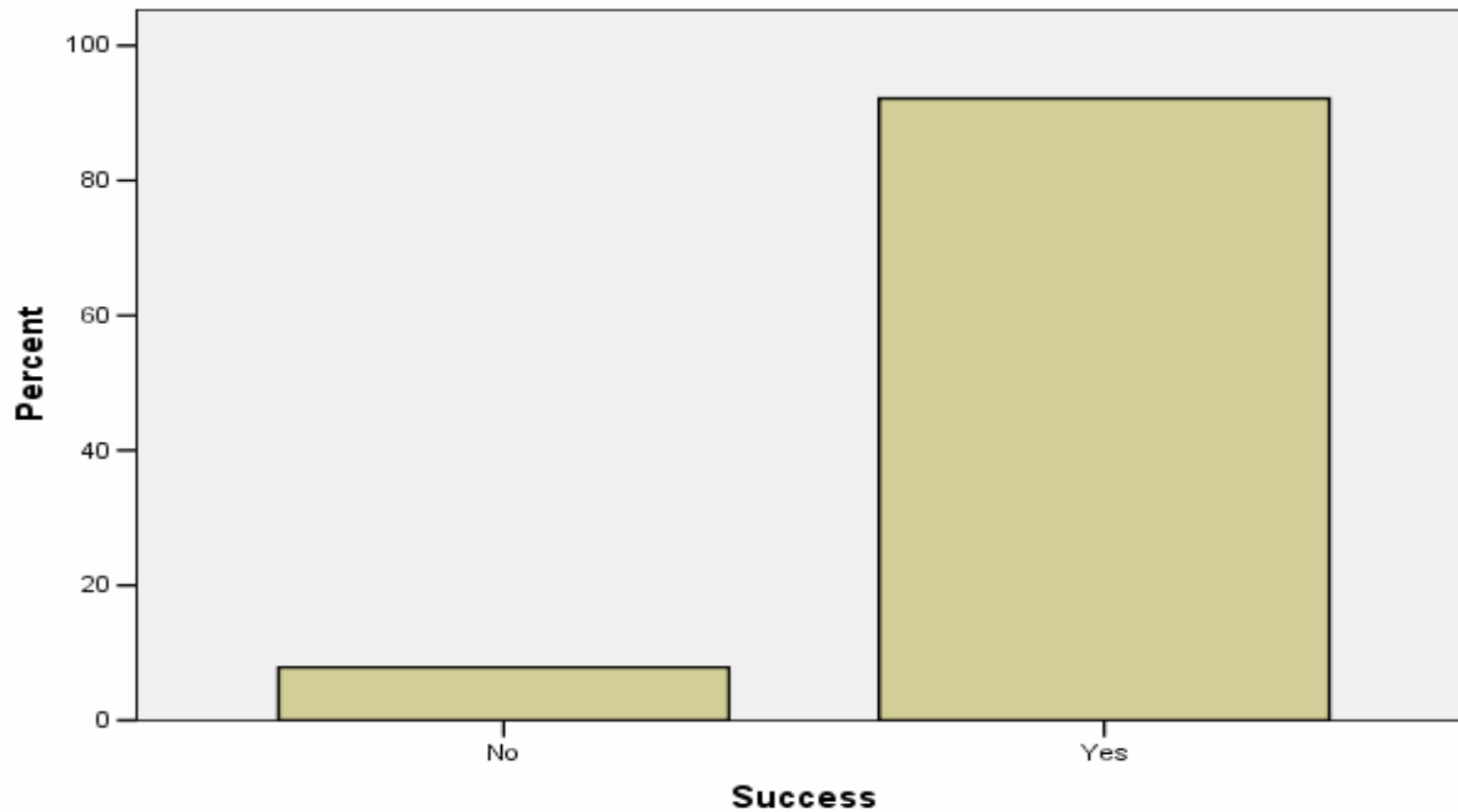


Demographics: Web Use





Results: Task Success Overall





Results:

Task Success by Condition

Condition	Success		
	No	Yes	Total
Start Anywhere	7	44	51
Start with Index	1	50	51
Total	8	94	102



Results:

Time on Task: Overall

Time (mm:ss.ss)

Success	Mean	N
No	2:26:01	8
Yes	0:26:12	94
Total	0:35:36	102



Results:

Time on Task: Overall

Time (mm:ss.ss)

Success	Mean	N	Std. Deviation
No	2:26:01	8	0:54:28
Yes	0:26:12	94	0:25:34
Total	0:35:36	102	0:43:05



Results:

Time on Task by Condition

(Successful searches only)

Time (mm:ss.ss)

Condition	Mean	N
Start Anywhere	0:32:13	44
Start with Index	0:20:55	50
Total	0:26:12	94



Results:

Time on Task by Condition

(Successful searches only)

Time (mm:ss.ss)

Condition	Mean	N	Std. Deviation
Start Anywhere	0:32:13	44	0:27:46
Start with Index	0:20:55	50	0:22:25
Total	0:26:12	94	0:25:34



Results: Click Counts

Condition		Success		
		Failure	Success	Total
Number of Clicks	1	0	51	51
	2	2	27	29
	3	3	6	9
	4	1	4	5
	5	2	4	6
	6	0	2	2
Total		8	94	102



Click Counts by Condition

(Successful searches only)

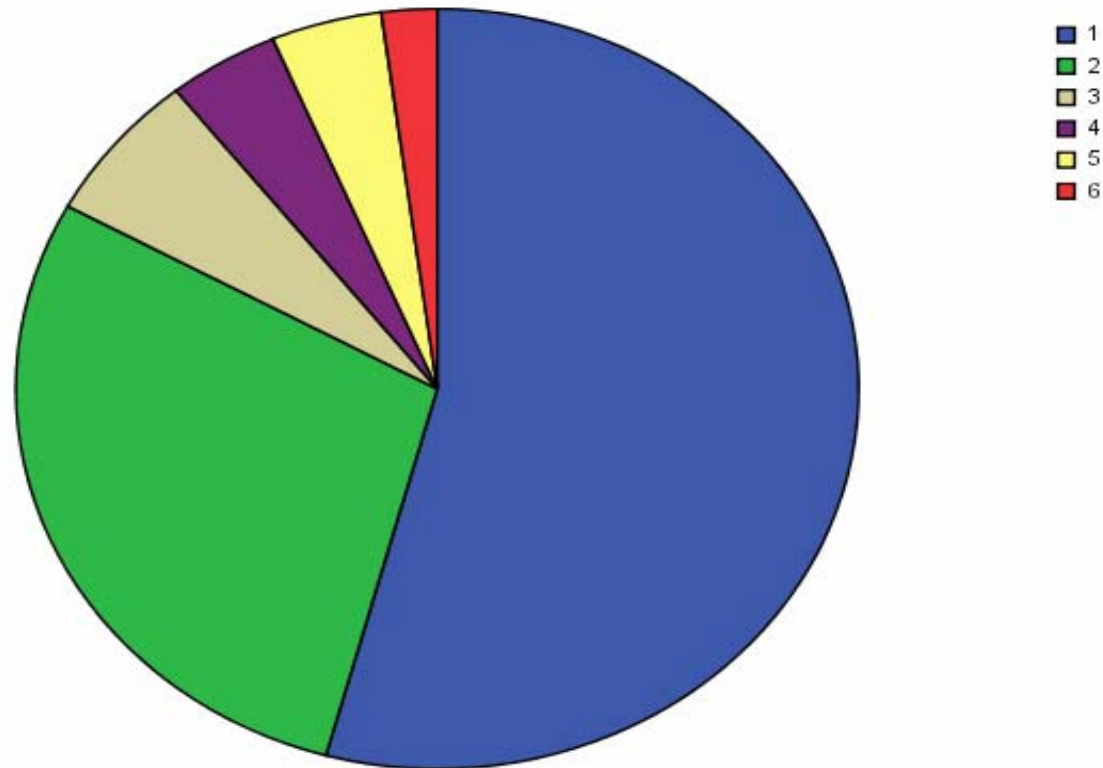
Condition		
	Mean	N
Start Anywhere	2.41	44
Start with Index	1.30	50
Total	1.02	94



Click Counts by Condition

(Successful searches only)

Number of clicks





Order/Learning Effects

- Since the index task was always second, it's possible that people learned something about the questions, so performed better on the second task.
 - To find out whether learning effects mattered, a "between subjects" design is needed.
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Results

Do library Web site indexes increase the speed with which users find information?

Yes, for people were successful in completing a task:

- The average time to success when instructed to start with an index was 20.5 seconds.
 - The average time to success when not instructed to use the index was 32 seconds.
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Results

If a library Web site contains an index, will users utilize the index?

- None of the participants optionally used the index.
 - 1 out of 17 used the Site Map as their first method of information finding.
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User Opinion of Web Indexes

Positive Feedback	Negative Feedback
 "A-Z index let me see everything at once."	 Participant "gets nervous" when using web indexes.  "So many bad indexes."
<h3 data-bbox="195 1019 726 1084">Training Issues</h3>  Can we train students to use an online index?	 "Not satisfactory."

Results

Do users know what a Web site index is?

- All participants said they knew what a Web site index is, but do they really know what an index is?





Results

Do library Web site indexes help users find information?

- Inconclusive. However, several of the subjects said they were looking for a specific term in the index, and then clicked a different term.
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Conclusions

- Results from this study show that an index improves the speed with which users find information on a Web site.
 - However, in a naturalistic setting, users did not optionally use the index to find information.
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Where Do We Go From Here?

How do we get the user to choose the A-Z index as a starting point of navigation?

- More user testing of placement of the "A-Z index link."
 - Develop simple standards that non-indexers can use.
 - Look into alternative ways of indexing Web pages. Anchor tags are "dead." We need to be involved with the development of DTDs.
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 2. Jörgensen, Corinne & Elizabeth D. Liddy. (1996). "Information access of information anxiety? An exploratory evaluation of book index features." *The Indexer*, 20(2): 64-68.
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 4. Nielson, Jakob. *Ten Usability Heuristics*. Retrieved 21 March 2005.
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