Improving Student Success: Researching How Students Use Electronic Library Resources

Ethnographic and Qualitative Methods
Online 2010
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Research Conducted for the UNT Libraries
Research Goal

To investigate how students at the University of North Texas use electronic library services.
Major Research Questions

1. To create a profile of the typical library user, including student career, external obligations, work style, and technology use.

2. To investigate students’ knowledge of and learning about electronic library services.

3. To investigate students’ behaviors regarding electronic library services.

4. To investigate students’ needs regarding electronic library services.

5. To investigate students’ preferences regarding electronic library services.
Research Population

UNT Students

Data Collection

14 observations
28 interviews
7 focus groups
Demographic Profile
Age

The diagram shows the distribution of students according to age, with two categories: ≤ 26 years and > 26 years. The left graph indicates that there are 19 students ≤ 26 years and 33 students > 26 years. The right graph indicates that there are 15 interviews ≤ 26 years, 4 observations ≤ 26 years, 23 interviews > 26 years, and 10 observations > 26 years.

(number of students)
Gender

(number of students)
Class Level

(number of students)
Commonalities

• Most Common Major: Anthropology

• Most Common Colleges: PACS and CAS

• Most Common Cities: Denton and Dallas
External Obligations

• Work schedule
  - 13 work < 20 hours per week
  - 21 work > 20 hours per week
  - 5 do not work

• Obligations other than work and school
  - 36 yes
  - 12 no
Credit Hours and Online Enrollment

• Undergraduate students average 11.5 hours per semester

• Graduate students averaged 10.5 hours per semester

• 92% of participants reported having taken at least one online course
Experience Level

(number of students)
Skill Level

(Number of students)

- Skill Level High: 19
- Skill Level Low: 9

- Undergraduate Lower: 2 (Skill High), 1 (Skill Low)
- Undergraduate Upper: 7 (Skill High), 5 (Skill Low)
- Master’s: 5 (Skill High), 1 (Skill Low)
- Doctorate: 5 (Skill High), 2 (Skill Low)
Disabilities

Disabilities: 4 13% all visual-related
Disadvantages: 2 6% age; connection
## Personal Resources

<table>
<thead>
<tr>
<th>Device</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop</td>
<td>43%</td>
</tr>
<tr>
<td>Laptop</td>
<td>100%</td>
</tr>
<tr>
<td>Mac Users</td>
<td>16%</td>
</tr>
<tr>
<td>PC Users</td>
<td>86%</td>
</tr>
<tr>
<td>Personal Printer</td>
<td>58%</td>
</tr>
<tr>
<td>UNT Printer</td>
<td>42%</td>
</tr>
</tbody>
</table>

* 27% of students who own printers proactively offered that they use UNT's printers to save money.*
Browser and Connection

- Firefox: 32%
- Explorer: 25%
- Safari: 13%
- Chrome: 11%
- DSL/BB: 33%
- DNK: 21%
- UNT: 5%
- Dial Up: 2%
Satisfaction with Resources

• Adequate/Satisfied
  UNT  8  87.5% satisfied
  Personal  13  92.3% satisfied
  Unclassified  8  100% satisfied

• Inadequate/Dissatisfied
  UNT  1  12.5%  color printer availability
  Personal  1  7.7%  rural area/dial-up
Multiple respondents desire a UNT Mobile Application that would permit quick searches for later download. Application enabled devices such as smartphones are owned by >50% of all students.
Time and Day Preferences

• Students work on research every day of the week
  - Friday is the least preferred day

• Most students prefer to work at home
  - 26% accessed from both home and the UNT Library

• Most students prefer to work in the evenings
Location Preferences

Campus Users:
- 62% via library
- 31% via lab or building
- 15% via classroom
Knowledge of UNT
Electronic Resources

UNT Libraries
Awareness of Resources

- e-Journals: 94%
- Databases: 92%
- e-Books: 67%
- ILL: 60%
- Full Text: 60%
- Thesis Db: 42%
- e-Tutorials: 25%
- Workshops: 17%
Awareness by Degree Level

- e-Journals: 100% Undergrad, 100% Graduate
- Databases: 100% Undergrad, 100% Graduate
- e-Books: 70% Undergrad, 56% Graduate
- ILL: 41% Undergrad, 92% Graduate
- Full Text: 47% Undergrad, 100% Graduate
- Thesis Db: 7% Undergrad, 100% Graduate
- e-Tutorials: 33% Undergrad, 50% Graduate
- Workshops: 17% Undergrad, 50% Graduate
Library Instruction

UNT Libraries
Learning About Resources

- Majority in class—by professor and/or by librarian for the class
- Retention higher for class-specific orientation than for general orientations

“As a grad student, I was expected to know how to use it already.”
## Past Instruction

### Overall Experience with Each Instruction Method

<table>
<thead>
<tr>
<th>In Library Instruction</th>
<th>In Class Instruction</th>
<th>Had Neither</th>
<th>Tutorial: Know</th>
<th>Tutorial: Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>62%</td>
<td>62%</td>
<td>12%</td>
<td>40%</td>
<td>17% (2%)</td>
</tr>
</tbody>
</table>

### Grads vs. Undergrads
- Grads had been given more instruction
- PhD. vs. Masters
- Lower vs. Upper Undergraduates

### Ability Ratings
- All 3 ratings high
  - Lowest instruction levels
  - Among the most likely to be aware of the tutorials
  - Highest online and in person tutorial use
Library News & Information

UNT Libraries
# Resource Information & Updates

## Popular Suggestions
- E-mail News and Updates
- Instruction Sessions
- Tutorials / Workshops

## Additional Suggestions
- Newsfeed / Blog
- Professors
- Blackboard
- Handouts or Flyers
- User Directed Updates
- Research Course
The General Research Process

UNT Libraries
Students’ Lack of Research Skills Observation Behaviors

• Students enter too many words in the search boxes
  - yielding no results
  - ex: “City downtown west side prior to 1950 art architecture”

• Students enter irrelevant or incorrect words in the search phrase
  - ex: “The journal of ABC Example” in a keyword search box
Students’ Lack of Research Skills Observation Behaviors

• Narrow search for specific resource
• Broad search on specific subject
• Browsing

• Lacking sufficient research skills, students were observed employing ineffective research strategies to achieve their objectives and therefore showing frustration
No Single Method or Resource Used by Students

- Students used a variety of methods for collecting research
  - some utilizing Google or Google Scholar to locate resources
  - then following up with UNT search
- Students enjoy Google’s “single search box” ease of use.

“There’s nothing you can’t find on Google.”

“Google is simple, it’s user-friendly.”
Lack of Library Training

- **Some** students with little to no library training
  - Mentioned specific UNT electronic resources as primary research resources

- **All** students who *only* rely upon general search engines (like Google and Yahoo) as research resources
  - Had *no* library training
Research Savvy Students

• More experienced students tended to use a favorite database, accessing through another school or source if not accessible through UNT
Strengths of UNT Electronic Resources
Perceived Strengths

**Comprehensive**
- Breadth and depth of information
- Reliability and credibility of information

**Convenient**
- Convenience and flexibility of access
- Especially true for distance learners

**Features**
- Specific features and functions, e.g.:
  - Refworks, advanced searches, search results display, ILL
Perceived Strengths

• Those most comfortable with site:
  - Older students (over age 26)
  - Students who report higher degree of comfort/skill level with library site
    • Have taken training class, or familiar with other sites already
Barriers to Using UNT Electronic Resources
Perceived Barriers

Lack of familiarity with:

- A steep learning curve
- Breadth and scope overwhelming, intimidating
- Layout/design makes it difficult to navigate

Site

- Challenging overall (independent of site)
- Search = trial and error. Very inefficient
- Don’t know what key words to use in general
- Not skilled at search overall
- More advanced search functions on site are overwhelming

Search
Perceived Barriers

Search results
- Not always helpful/relevant
- Book review links not useful
- Inconsistent results
- Abstracts not always available

Databases
- Options confusing
- No search function that spans all databases for subject area

Resources
- Not always adequate for needs (e.g., Communications and Biology)
Perceived Barriers

Services
- Interlibrary loan takes too long (e.g. 3-4 weeks)
- Certain databases simply not available

Formats
- Journal articles not available in full-text PDF format
- E-books not always viewable

Technical
- VPN for distance learners a major challenge
- Compatibility issues (especially for Mac/Safari users)
Perceived Barriers

• Those least comfortable with site:
  - Undergrads and younger students who use site less frequently

• Gap exists between perceived and actual skill levels and resulting degree of confidence
  - Many challenges and frustrations due to lack of familiarity, not actual functionality
  - Students not aware of all available resources
  - Technical issues may be due to user error
  - Poor search skills may be more to blame for poor search results
Overcoming Roadblocks

**Technical**
- Start over, returning to UNT Library homepage
- Come back later

**Inaccessibility**
- Disregard source
- Change topic and/or direction of assignment

**Ask**
- Over 60% ask a librarian
- Classmates or friends
Ideal Ways of Receiving Help

- 24 hour assistance or extended hours
- Online chat, email, and phone
- Students value personal contact and personalized service
  - Sharing a desktop or video chat
- Most cited concern
  - Length of time to receive a response
Librarians

UNT Libraries
Positive Reviews for Librarians

- 80% reported working with a librarian on at least one occasion
- Librarians - extremely responsive and helpful
- No reported negative experiences
- “Ask a Librarian” helpful
- Library tours and training
Managing Information

UNT Libraries
Managing Information

Students mentioned that they would do one or more of the following with the information collected while conducting research:

- Save on hard drive or USB thumb drive
- Cut and paste directly to document
- Save a bookmark
- E-mail link to themselves

Most students reported no problems managing information.
The UNT Libraries Website
The UNT Libraries Homepage

- **Access**
  
  "You have to hunt around for another small link"
  
  - The UNT Homepage
  - Google
  - Bookmarks

- **Function - Size of text and information organization**
  
  "A library site should know its top three or four things that people want"

- **Aesthetics - Color choices and imagery**
  
  "I think people remember things better when there's a visual there."
Searching the UNT Libraries Website

“I spend more time navigating than doing actual research”

• Defining a successful search
  - Finding credible sources in a timely manner
  - Finding multiple sources through the best possible search database
  - Having multiple options to find multiple sources

• Student problems with search format
  - Understanding how to use the Electronic Resources
  - Running into issue involving configuration (pop-up problems, off-campus compatibility, and log-in frequency issues)
User Suggestions

UNT Libraries
User Suggestions

• Creating links to perform searches based on college or course
• Integrating explanations of electronic resources
• Creating tabs of search results by format
• Using a format for article searches similar to Google scholar
• Beginning search process on library homepage rather than links to other information
Recommendations

UNT Libraries
Recommendations

• Improve user experience
  - Make website more visually attractive
    • Work with graphic design department
  - Design integrated or umbrella search tool
    • Other universities have Google Scholar integrated with their websites
  - Design possibility to personalize library website
    • (e.g. - my.library.unt.edu)
Recommendations

• Improve library instruction
  - Use professors as a resource for training students
  - Tiered levels of training
    • Google is making people overconfident because it is forgiving of poor search terms
    • Offer basic tutorials and more advanced tutorials
      • Both should be quick and interesting video tutorials
      • Some suggestions
        1. How to perform a successful search
        2. Tutorials for new research projects
Recommendations

• Improve communication
  - Create printout catalog of the site
    • Explanation of different databases
    • Explanation of what databases can be used for
  - More publicizing of the library URL
  - More publicizing of the tutorials