How Students Navigate, Use & Learn From Digital Resources

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Introduction
We conducted a large study of undergraduates in the United States. We were interested in how they used digital information and how that affected their learning. More specifically we wanted to learn more about:

- Was there a difference in how students searched for information for coursework related questions compared to how they searched for information for topics in which they had a personal interest?
- What were the primary resources that students used to find information?
- What kinds of technologies did they typically use, and what would they prefer to use?
- Did students see a value in collections of digital resources and what were the components of that value?

Methods
We conducted the research in 3 major stages:

1. Qualitative phase
   To develop a survey instrument we conducted 9 focus groups at a variety of institutions with a variety of different types of students being represented. Using this information we refined the research question and constructed a survey instrument.

2. Quantitative data gathering
   We purchased a survey sample of likely students from a survey vendor and collected responses from just over 1,700 respondents.

   This gave us three distinct sets of responses, current students former students and a small group of respondents who had never attended college. This provided a nice set of comparisons.

3. Analysis
   We looked at descriptive statistics as well as developing a dimensional analysis of the determinants of student search and conducting latent class analysis to develop a set of student personas or types classified by their information seeking behavior.

Demographics

Students and Technology

<table>
<thead>
<tr>
<th>Used vs. Preferred class modalities</th>
<th>Experiential Class Modalities</th>
<th>Non-STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM</td>
<td>56%</td>
<td>24%</td>
</tr>
<tr>
<td>Non-STEM</td>
<td>14%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Technologies used in class

<table>
<thead>
<tr>
<th>Technologies used in class</th>
<th>STEM</th>
<th>Non-STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=961</td>
<td>17%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Student information seeking behavior: Class vs. Interest

Implications

- Students appreciate mixed modalities for learning— are faculty prepared to meet that challenge? What Support do they need and what’s effective?
- Students still show strong preference for ‘passive’ modes of learning, e.g., videos over interactive social network sharing – how do we encourage students to interact:
  - What students experience and what they prefer are very similar – is change necessary?

Dimensionality of Digital Search

STEM Resources: Digital Search

Student Technology Personas

Persona Demographics

Personas And Technology

Implications

- The majority of students are ambivalent about technology and digital resource use - What ways might overcome this ambivalence?
- More research needed!