ABSTRACT:
As librarians, we often believe that students are using research tools in specific ways and we design them to meet this assumption. But what if we are wrong? How would that change the way we design our tools and approach our teaching?

We gathered data from Primo, LibGuides, and our Databases A-Z list for week 2 and 8 of the Spring Term 2017 and 2018, and performed usability studies with undergraduate students to learn more about how they use LibGuides and Primo.

Using a mixed methods approach, our process is revealing how students currently interact with library tools and how the design can lead to frustration and seeking out non-library methods to complete their research. Through our analysis, we are examining how we can improve the content and design of the three platforms to be more user-centered. We are specifically focused on clearly defining the purpose of tools and updating terminology to match student expectations.

This study seeks to strike a balance between assuming our domain expertise and seeking to “instruct” students on how to navigate the complex and sometimes disjointed web of library resources with a sincere interest in learning more about how they perform their research “in the wild” and merging some of our best practices to be more compatible with theirs.

METHODS:
We downloaded, cleaned, and coded qualitative data on searches conducted in Primo, the Databases A-Z list, and LibGuides homepage for week 2 and week 8 during the Spring Term 2017 and 2018.

For searches in the Databases A-Z list and LibGuides, we identified the type of searches most appropriate to generate successful results and used this to determine percentages for accurate searches. Each search term received a code describing the type of search.

For searches in Primo we limited our qualitative analysis to searches by undergraduates (except for Spring Term 2017, Week 2 when information was not available) that returned zero results. Each search term was coded to describe why the search appeared to fail (misuse of filters, scopes, using to many words, etc.).

HOW ARE STUDENTS USING THE TOOLS?
While we see the search boxes of our tools as unique, students do not. Whether it is the search box for Primo, Databases A-Z lists, or LibGuides, students treat them equally and often use google-type searches, copy and paste from other sources, and search for items not available within the resource.

Our findings indicate that instruction over the course of the term does not increase searching accuracy.

### FINDINGS: ZERO SEARCHES IN PRIMO
<table>
<thead>
<tr>
<th>Databases A-Z</th>
<th>LibGuides</th>
<th>Primo</th>
<th>Home</th>
<th>Searches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spring 2017</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>32% accurate</td>
<td>30% accurate</td>
<td>Not Available</td>
<td>Not Available</td>
</tr>
<tr>
<td>Week 8</td>
<td>50% accurate</td>
<td>50% accurate</td>
<td>1.9% Failed</td>
<td>1.9% Failed</td>
</tr>
<tr>
<td><strong>Spring 2018</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 2</td>
<td>32% accurate</td>
<td>76% accurate</td>
<td>2.7% Failed</td>
<td>2.7% Failed</td>
</tr>
<tr>
<td>Week 8</td>
<td>26% accurate</td>
<td>26% accurate</td>
<td>1.8% Failed</td>
<td>1.8% Failed</td>
</tr>
</tbody>
</table>

### FINDINGS: DATABASES A-Z LIST SEARCHES

For searches in the Databases A-Z list and LibGuides, we identified the type of searches most appropriate to generate successful results and used this to determine percentages for accurate searches. Each search term received a code describing the type of search.

### FINDINGS: LIBGUIDES HOME SEARCHES

For searches in LibGuides, we identified the type of searches most appropriate to generate successful results and used this to determine percentages for accurate searches. Each search term received a code describing the type of search.

### RECOMMENDATIONS/FUTURE STEPS:
We recommend the following steps to help students improve navigation of these tools:

1. Present results to instruction librarians, summarizing common search problems and potential remedies on the three platforms.
2. Make error messages more helpful and encouraging. For zero results in LibGuides, Databases A-Z, and Primo state the most common reasons for zero results and offer suggestions on how to improve the search.
3. In Primo, limit search type and field customization to advanced search.
4. Develop tutorials and handouts for searching each tool that explain best practices and pitfalls.
5. Continue to collect and analyze data to track changes over time.

For more information about this project see: [https://bit.ly/2DQfbrR](https://bit.ly/2DQfbrR)