

Improving Database Discovery and Understandability by Identifying and Reducing A–Z List Jargon

Robin Vickery, Christine Hertzelt, Dana V. Lema, Yingxuan Liu, and Niamh Wallace

ABSTRACT

Countless research questions arise when investigating connections between library resource discovery and student success. Existing literature explores best practices of database description language and style, the usability of database A–Z lists, and library resource jargon. Academic libraries continue to grapple with these challenges in resource discovery, even as online searching behavior evolves and new research tools emerge. A research team at the University of Arizona Libraries builds on the literature by examining these topics with a focus on the impact of a user's academic discipline, university affiliation (faculty, staff, or student), and research experience on their understanding of database terminology, resource content and applications, and A–Z list type filters. The authors conducted an environmental scan of library websites along with several usability tests to identify and reduce library and disciplinary jargon on their A–Z list to make databases more understandable and approachable to all users. This article presents the results of these assessments as a case study for exploring external and internal factors that impact users' understanding and discovery of databases.

INTRODUCTION

When investigating connections between library resource discovery and student success, countless questions arise as possible starting points: How do users find and use library databases? Is it clear to them what a database even is? Does the term have different meanings to users from different disciplines that would affect their understanding of databases as resource discovery tools? Similarly, what effect does university affiliation (faculty, staff, or student) have on that understanding? Once a user understands what a library database is, how do they determine which database is appropriate for their research? What factors within the library's control affect that decision-making process? How can libraries make databases more understandable, approachable, and welcoming to users, regardless of their discipline and affiliation, to further their research inquiry and success?

Academic libraries continue to grapple with these questions even as online searching behavior evolves and new research tools emerge. With budget cuts and inflationary increases posing evergreen challenges to information access, the need to examine database usage and leverage content in creative ways has become increasingly critical to ensure users have access to high-quality information and data while maintaining diversity and breadth of perspectives and resource types.

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A team of faculty and staff at the University of Arizona (U of A) Libraries (UAL) came together to explore these issues by studying interdisciplinary applications of library databases. Specifically, they wanted to highlight the interdisciplinarity of databases traditionally associated with a single, often jargon-intensive discipline to lower barriers to those resources and spark unexpected connections. With the onboarding of a new electronic resources librarian and a planned upgrade to the A–Z database list user interface, their study became a broader exploration of users' understanding of databases and their applications. The authors centered their research questions (RQ) on three key areas:

- Database as a term (RQ1): How do users define and understand the term *database* in a library context?
- Database descriptions (RQ2): How does the description of a database affect users' understanding of its content and potential applications?
- Database types (RQ3): How do users understand database types on an A–Z list? Can users identify the type(s) of a database based on its description?

In considering these questions, the authors were particularly interested in learning whether a user's discipline, university affiliation, or research experience impacts their understanding of database terminology, content, and applications.

The authors conducted an environmental scan of library websites along with several usability tests specific to their context at the U of A with the goal of identifying and reducing library and disciplinary jargon on its A–Z list. This article presents the results of these assessments as a case study for exploring external and internal factors that impact users' understanding and discovery of databases.

LITERATURE REVIEW

Since libraries began using online catalogs in the 1970s, improving the patron's search experience has been a focus of professional research. As catalog searching evolves from librarian-driven searches using Boolean operators and controlled vocabularies to patron-driven searches using natural language, ways of supporting search and discovery of materials evolve as well. For academic libraries, the gateway to databases is often the A–Z list. Through focus groups, usability tests and case studies, and statistics, libraries learn how to accommodate patrons' current search habits and improve A–Z list accessibility.

Database Descriptions

In their 2019 article, Archambault, Masunaga, and Ryan present results of their usability study comparing the speed with which college students completed tasks using vendor database descriptions versus shorter descriptions presented in chunks (Subjects, Description, and Contents) on LibGuides.¹ Based on professional best practices, they posited that, because students tend to skim websites, they would be better able to navigate descriptions with smaller blocks of text.² They found that students completed tasks 13% faster and had a higher task accomplishment rate with the revised format written to accommodate scanning versus in-depth reading.³

Backowski, Hinnant, and LaValle utilized plain language writing principles to rewrite A–Z list database descriptions. They then conducted usability tests to determine if the new descriptions aided students in completing tasks. Testing revealed that 14% more participants completed the tasks correctly when using the plain language descriptions.⁴ Additionally, 84% of those using the

plain language descriptions indicated they were extremely or somewhat easy to use compared to the 54% who used the unchanged descriptions.⁵

Librarians from the College of Charleston conducted virtual focus groups to survey academic library users prior to a planned A–Z list update.⁶ Among other factors like page layout and color schemes, participants were asked about database descriptions. When presented with single-line descriptions, longer vendor-provided descriptions, and medium-length descriptions written by the institution’s librarians, participants indicated they preferred the medium-length database descriptions.⁷ One conclusion they noted was that “students appreciated brevity but cared even more about seeing details they found relevant.”⁸

In their case study describing how the University of New Mexico’s University Libraries consolidated two A–Z lists, Quinn addressed the issue of how to identify the resources that would be included in the new list.⁹ This was accomplished by librarians who reviewed more than 500 databases divided into subject groups. New, more concise descriptions were written and reviewed by other librarians prior to inclusion in the new list. The author noted that while these description revisions added to the overall improvement of the consolidation project, some issues remained.¹⁰ Similar to the conclusions found by Fry and Rich, they indicated that it was doubtful library users read most of the A–Z list content.¹¹ Quinn stated, “Also, many of these descriptions and listings appear to be more for the library staff than users.”¹²

In another case study of database list consolidations, Wong describes the process of moving to a new platform for the database list at Simon Fraser University.¹³ A significant part of this change was the inclusion of liaison librarians not only in rewriting the database descriptions but also in establishing description guidelines to ensure consistency and improve usability. Some of the guidelines included “keeping descriptions brief, using jargon-free language, avoiding marketing terminology and keeping the descriptions evergreen by not listing specific dates or facts that could date quickly.”¹⁴

Database Identification

To identify how university students differentiate different document types, Buhler and Cataldo analyzed surveys received from more than 400 students. Survey participants were presented with 18 online resources and asked, “What would you call this?” to determine how they would classify each resource.¹⁵ The researchers used resource definitions from the Oxford English Dictionary for their study. Their conclusions indicated that, based on the dictionary definitions, students were unable to correctly identify different types of resources (catalog, database, search engine, or website/webpage).¹⁶ This finding was consistent with other literature that identified confusion experienced by college students in identifying various resources. The authors also noted, “Further, we found no correlation between student levels, age, experience in online searching, and bibliographic instruction and their ability or inability to identify an electronic resource.”¹⁷

In 2010, Fry and Rich conducted usability testing on the automated database descriptions provided by their electronic resources management system at Bowling Green State University. Nine undergraduate students were asked to complete five tasks on the library’s website. Part three of the study focused specifically on the A–Z list. Results indicated that students struggled to use the A–Z list when they were not searching for a known item.¹⁸ The researchers concluded that students did not often successfully use subject lists (e.g., A–Z lists).¹⁹ The results raised questions as to whether these lists were designed primarily for students or for library employees helping students find resources.²⁰

Terms and Jargon

McDonald and Trujillo conducted a literature review using popular bibliographic databases including LISTA, LISA, and Google Scholar.²¹ One goal of the scan was to assess what terms library users did not understand and compare those to a study conducted by John Kupersmith to see if they were still relevant.²² They concluded the most common terms not understood were *journals*, *articles*, and *databases*.²³ This indicated that Kupersmith's guidelines for choosing terms for library websites were still relevant more than 10 years later.

In another exploration of database terms, O'Neill studied undergraduate students' preferences for natural language over library jargon when using library resources.²⁴ In this study, undergraduate students were presented with a survey including open-ended preference testing using a screen capture of library resources and asked to provide their own term to describe them. The second exercise involved the students receiving a verbal definition of a library resource before being asked to provide a definition in their own words. O'Neill's study results didn't demonstrate statistically significant consensus in terminology preferences among students.²⁵ In the conclusion, however, they note, "The findings suggest that without prompting students with library jargon, students do not use that language to describe those resources."²⁶

The review of existing literature revealed both consistencies and gaps in the current understanding of A-Z list user familiarity and search behaviors. This informed the research questions developed by the authors of this study, as we sought to identify if similar behaviors existed within our own user population and to fill knowledge gaps with new data.

METHODS

The authors conducted four assessments to explore their research questions:

- An environmental scan of database terminology and descriptions on academic library websites,
- An anonymous and asynchronous talk-back board in their main library, and
- Two usability tests: an online survey and an in-person matching activity.

For the talk-back board and usability tests, the authors submitted an Institutional Review Board (IRB) Protocol for Determination of Human Research. The U of A IRB determined that the study does not involve human subjects as defined by the United States Department of Health and Human Services regulations (45 CFR 46) and the Food and Drug Administration regulations (21 CFR 50) and is exempt from IRB review and approval.

Environmental Scan of Library Websites

Before investigating how users describe or define the term *database* in a library context, the authors wanted to learn what alternative terms—if any—academic libraries currently use. They conducted an environmental scan of 62 library websites to examine terms that direct people to their databases. This was often the name of a link referring users to an A-Z list. These links were usually positioned prominently on the homepage or found within one to two clicks through the main menu.

This review also involved scanning database descriptions to gauge whether the language used was vendor-centric and jargon-heavy or more user-centric with plain, concise language. The authors used the tone, intent (selling vs. informing), presence of superlative or laudatory adjectives ("superior," "high quality," "renowned," etc.), and length of the descriptions to aid their analysis. They reviewed descriptions laterally to compare the copy of a single database across libraries to

inform their judgment. Likewise, they compared descriptions internally to other descriptions on the same A–Z list to assess whether the library appeared to have a standard practice for creating descriptions, such as following editorial guidelines or modifying vendor-provided descriptions.

To assess whether a database description was more user-centric and thus likely written by library employees, the authors reviewed the copy against their own library's editorial style guide (see Appendix A). These guidelines state that database descriptions should use active voice; be short (ideally one sentence); contain essential information about resource types and scope; and describe unique features, functions, or associations. When listing aspects like subjects and formats, it suggests that no more than five be listed. Descriptions should not include details that are likely to change frequently. Above all, descriptions should prioritize the user's experience, reduce jargon, and help inform their understanding of a given resource.

When reviewing descriptions, the authors referred to the same set of eight databases when possible (BioOne, Birds of the World, Bizminer, Business Source, Sage Research Methods Online, ScienceDirect, Standard Rate & Data Service [SRDS], and Statista) to be consistent and enable lateral reading, but they also reviewed the lists more holistically to get a better sense for the presence of a library-created standard. The authors selected these databases largely based on potential for disciplinary jargon, leaning toward scientific, technical, or data collections, as well as for a desired broad coverage of source types. Additionally, they factored in how easy it would be to review each description, so databases that would be listed closer together on an A–Z list were prioritized. They categorized descriptions on a range from *vendor-provided* to *library-created*, with *mixed*, *mixed but mostly vendor-provided*, and *mixed but mostly library-created* falling in the mid-range. The authors used the midpoint (*mixed*) when descriptions felt equally representative of a user-centered style and vendor language. The authors also noted exceptions or unique features of the descriptions and the A–Z list as a whole.

Library websites from 93 public universities were included in the initial review. The authors worked from a list compiled by others at their library, which consisted of institutions with an R1 Carnegie Classification research activity designation. To ensure the list's currency and accuracy and make the environmental scan more manageable, the authors searched the Carnegie Classification of Institutions of Higher Education website to narrow this total. By limiting the selection to public R1 institutions with an institutional classification and graduate academic program mix comparable to the U of A ("Mixed Undergraduate/Graduate-Doctorate Large" and "Professions-focused," respectively), the authors identified 62 universities to include in their review.

Talk-Back Board

A talk-back board is a whiteboard in a public space where random participants respond to a prompt anonymously. To gauge how students use library databases, the authors set up a talk-back board in the U of A Main Library for two weeks toward the beginning of the fall 2024 semester. It included two prompts:

1. Pop quiz: what's a research database? (No wrong answers!)
2. If you've used one, which one did you use?

The authors provided sticky notes and markers for library visitors to add new answers to the prompts. Smaller dot stickers were also provided so participants could cast votes on existing answers they agreed with.

Usability Testing

To select databases for inclusion in the usability tests, the authors followed a process similar to their environmental scan's database description evaluations. They focused on databases that specialize in a particular discipline or source type that could make describing the content difficult without the use of disciplinary, library, or vendor jargon. Using the databases from the environmental scan as a starting point, they scanned their A–Z list to identify descriptions that did not follow the UAL Editorial Style Guide (see Appendix A) and whose names and/or descriptions were jargon-heavy, lengthy, or vague (hereafter, existing descriptions). The authors completed this search once they identified 10 to 12 databases reflecting a variety of disciplines and source types. Next, they wrote new descriptions for these databases (hereafter, revised descriptions), following their editorial style guide, and voted for the top four databases to include in the study based on how substantially changed the new descriptions appeared and how well the selected databases represented the initial sample. These databases were BioOne, O'Reilly Learning Platform, Sage Research Methods Online, and SRDS. For the second usability test, they updated their selections to include six databases (BioOne, Gale U.S. History in Context, IEEE Xplore, International Medieval Bibliography, Sage Research Methods Online, and SRDS) that better represented a range of existing A–Z list types.

While usability testing involves smaller sample sizes than controlled scientific experiments, it can still provide actionable insight.²⁷ The sample sizes of the participants in the usability tests were on par with recommended user testing sample sizes of at least five participants.²⁸

Usability Test #1

The UAL User Experience (UX) team maintains an email list called UX Participant Pool. This pool includes a variety of U of A affiliates who volunteer to participate in UX studies. At the time of the study, there were 730 people in the pool, including graduate and undergraduate students, faculty, and staff.

The authors sent a survey to the UX Participant Pool to understand RQ1 (*database* as a term) and RQ2 (database descriptions). The authors evenly divided the email list into four smaller pools: A, B, C, and D. Five survey questions (SQs) were sent to each pool. The SQs were slightly different for each pool to create a controlled experiment.

SQ1 addressed RQ1. Figures 1 and 2 present the two versions of this question.

Figure 1. SQ1 for pools A and B. Participants are asked to view a screenshot of the library search box on the UAL website, which includes the sentence, “Find books, articles, *databases*, *journals*, and more,” in which the terms *databases* and *journals* are links.

In your own words, define the word “database” in the screenshot.



Figure 2. SQ1 for pools C and D. Participants are asked to view a screenshot of the UAL A–Z list and answer a prompt. The screenshot includes the databases Academic Search Ultimate, Business Source Ultimate, Google Scholar, JSTOR, Nexis Uni, ProQuest Dissertations & Theses Global, and PsycINFO, each with a short description.

You can find this information on the UAL website. What would you call them?

The screenshot displays a list of seven databases, each with a title, a 'Featured' badge, a description, and a share icon. The databases are: Academic Search Ultimate, Business Source Ultimate, Google Scholar, JSTOR, Nexis Uni, ProQuest Dissertations & Theses Global, and PsycINFO. Each entry includes a brief description of the database's content and a 'Featured' badge. The 'Nexis Uni' entry includes an 'Alternate Name(s)' section and a note about login requirements. The 'ProQuest Dissertations & Theses Global' entry also includes an 'Alternate Name(s)' section.

Academic Search Ultimate Featured	Find peer-reviewed journals, full text periodicals, reports, and books across multiple subjects.
Business Source Ultimate Featured	Find articles from academic journals and business magazines, as well as company profiles, market research, and industry reports.
Google Scholar Featured	Find peer-reviewed papers, theses, books, pre-prints, abstracts, and technical reports. To set up access to UA Libraries full text from off campus or export to a citation manager, click "more" below. MORE...
JSTOR Featured	Find articles, book reviews, and more from thousands of academic journals across the social sciences, humanities, arts, and sciences.
Nexis Uni Featured	Alternate Name(s) LexisNexis Academic Universe (now Nexis Uni) Find news from U.S. and international newspapers, television and radio broadcasts, newswires, and blogs, as well as business profiles, patents, and legal research. Note: May require users to log in with their NetID even on campus.
ProQuest Dissertations & Theses Global Featured	Alternate Name(s) Dissertations & Theses - Full Text (ProQuest);Dissertation Abstracts Online Find doctoral dissertations and master's theses from universities and institutions all around the world.
PsycINFO Featured	Find articles, dissertations, and book chapters in psychology and behavioral health.

SQ2 through SQ5 addressed RQ2 and presented four imaginary scenarios. Participants were prompted to choose the research topics, assignments, or sources for which a given database, based on its description, is likely helpful. Pools A and B were given the existing descriptions and pools C and D were given the revised descriptions. The authors also alternated whether each pool was given the database's name alongside its description to better control any influence the name has on their decision-making process. An example of these versions for SQ2 is as follows; see Appendix B for all versions of SQ2 through SQ5.

SQ2: Read the following description of a library database:

- [Pool A, existing description with database name] **SRDS – Standard Rate and Data Service:** SRDS is a database of media rates that catalogs more than 100,000 U.S. and international media properties.
- [Pool B, existing description *without* database name] SRDS is a database of media rates that catalogs more than 100,000 U.S. and international media properties.
- [Pool C, revised description with database name] **SRDS – Standard Rate and Data Service:** Find advertisement costs and subscriber numbers for media outlets including TV & radio channels, podcasts, newspapers and magazines. Browse the Multicultural & Inclusive category to research media with diverse or underrepresented audiences.
- [Pool D, revised description *without* database name] Find advertisement costs and subscriber numbers for media outlets including TV & radio channels, podcasts, newspapers and magazines. Browse the Multicultural & Inclusive category to research media with diverse or underrepresented audiences.

What assignment(s) do you think it might be helpful for?

- Estimate the cost to run an advertisement in a newspaper [CORRECT]
- Compare and contrast TV show ratings
- Analyze real estate properties
- Create a marketing campaign for reaching the LGBTQ+ community [CORRECT]

Usability Test #2

The second usability test incorporated user interviews with a matching activity to address RQ3 (database types). Users were randomly recruited from the U of A Main Library's lobby and provided a variety of colored dot stickers; a sheet of paper listing six database names with their revised descriptions (see Appendix C); and a sheet listing eight database types, undefined, and labeled with unique colored dot stickers (see Appendix D). The study facilitators asked participants to read the information for each database and match it to database type(s) from the list by placing colored stickers below the database description. Each colored sticker corresponded to a database type. Participants could assign more than one type to each database and use each type more than once. The facilitators did not provide definitions for types, even when asked. Participants were invited to share their thoughts and decision-making process out loud during the matching activity.

The six databases included were BioOne, Gale U.S. History in Context, IEEE Xplore, International Medieval Bibliography, Sage Research Methods Online, and SRDS. The revised descriptions for these databases are in Appendix C.

The eight database types were Journals and Articles; eBooks; Dictionaries, Encyclopedias, and Handbooks; Research Protocols; Industry and Market Research; Subject Portal; Technical Standards and Reports; and Citations, Abstracts, and Indexes. An example of this reference sheet is in Appendix D.

The study facilitators also asked participants pre-interview, interview, and post-test questions:

- Pre-interview questions: What's your affiliation with the U of A? What's your major (if applicable)?
- Interview questions: Are you currently working on a research project, or have you worked on one in the past? If yes, give us a one-sentence description of your project. Have you used any library databases for your research project? If no, can you guess what a library database is?
- Post-test questions: Can you tell us how easy it was for you to understand the descriptions of the databases, with 1 being the easiest and 5 the hardest? Can you tell us how easy it was for you to understand the types, with 1 being the easiest and 5 the hardest?

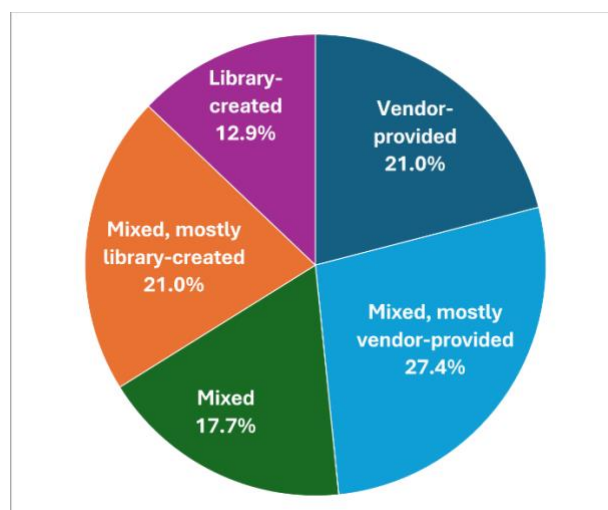
RESULTS

Environmental Scan of Library Websites

Unsurprisingly, the authors confirmed that the predominant—and often only—term used to direct users to a library's database list was in fact *databases*, with all 62 evaluated websites including this term in the main link to their database holdings. While most (77.4%) used this term on its own, several libraries (8.1%) also incorporated the phrase *A–Z list*. Additional libraries (9.7%) paired *databases* with a second term alluding to specific resource types (e.g., *articles*, *e-reference*, *e-resources*) or an undefined multitude of resources (e.g., *more*). Only a few libraries (6.5%) added qualifiers (e.g., *research*, *library*) to describe the type of databases meant. One library used both a second term and a qualifier.

The evaluation of database descriptions was less straightforward, with no single type of description dominating the landscape (see Figure 3). When viewing results across three categories instead of five, libraries whose database descriptions more closely reflect a vendor-provided style (*vendor-provided* and *mixed, mostly vendor-provided*) represent almost half (48.4%) of the libraries evaluated, while those aligning more with a library-created style (*library-created* and *mixed, mostly library-created*) represent around a third (33.9%).

Figure 3. Evaluation of database descriptions on library websites ($N = 62$).



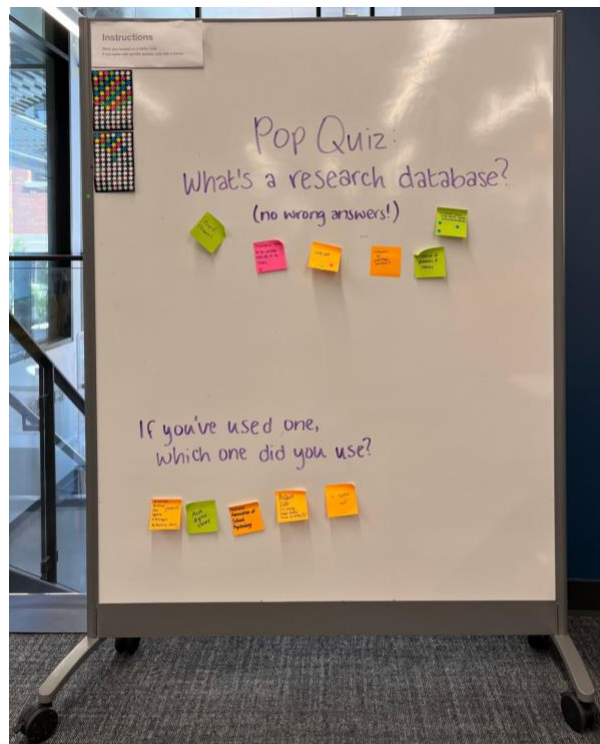
Terms and phrases that stood out as reflective of vendor language included: *ultimate*, *renowned*, *authoritative*, *celebrated*, *powerful*, and “exceeds all other databases.” Other characteristics

included exhaustive lists of subjects and resource types, descriptions that repeated the database name, and extraneous information that felt like a tagline or sales pitch. Some libraries' descriptions appeared to follow a prescribed format ("this resource/collection/database/publisher provides ... dates covered include ... subjects include..."). Very few employed user-centered action verbs (*find, browse, etc.*), language that indicated the descriptions were library-created in accordance with the UAL Editorial Style Guide (see Appendix A).

Talk-Back Board

The UAL UX team learned from past research that most people who use the Main Library's physical spaces are undergraduate students, so this population was assumed to be the main participants of the anonymous talk-back board. After two weeks, 13 interactions (six sticky note responses and seven votes with sticker dots) were documented for the first prompt and 5 sticky note responses for the second prompt (see Figure 4).

Figure 4. Image of talk-back board with sticky note responses to two questions ("What's a research database?" and "If you've used one, which one did you use?") on September 26, 2024.



The first prompt yielded mixed answers (see Table 1). While around half of the sticky note responses and 42.9% of the sticker votes described or interacted with content in line with library databases, one third of the responses and another 42.9% of the votes instead related to generative artificial intelligence (AI) tools. On the other hand, all five answers provided in the second prompt ("If you've used one, which one did you use?") aligned with the authors' ideas of databases:

- Is PubMed one?
- ProQuest LLBA but usually Google Scholar because I'm lazy
- National Association of School Psychology
- Mikulski Archive for Space Telescopes (MAST) Astronomy stuff :)
- ACM digital library

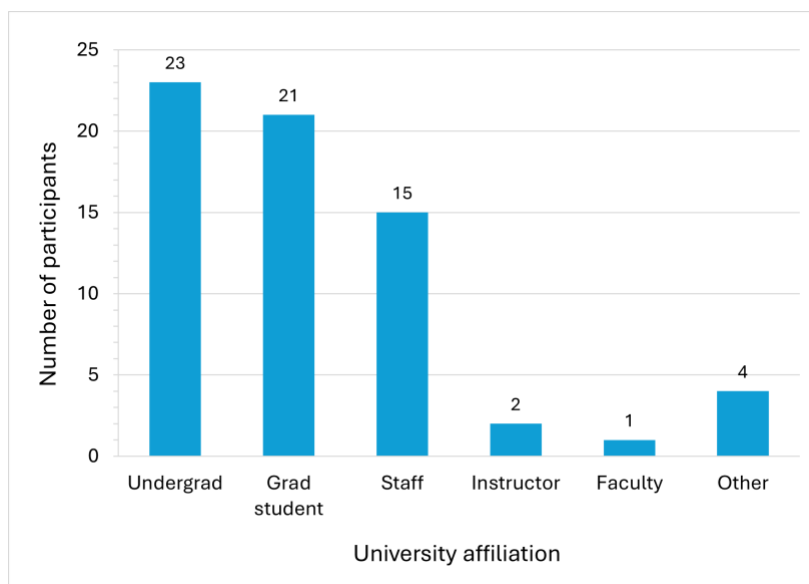
Table 1. Responses and votes for first talk-back board prompt: “What’s a research database? (No wrong answers!)”

Responses (Sticky Notes)	Additional Votes (Stickers)
Chat GPT	3
A digital space that holds books and information	3
Information about all the available materials at the library.	1
Collection of published articles?	0
A bunch of journals & theses	0
Bard (Gemini)	0

Usability Test #1

After disseminating the survey to the UX Participant Pool, 58 people responded. Figure 5 illustrates how participants self-identified their university affiliation, with 74.1% of participants identifying as students and 29.3% as faculty, staff, or instructors. Eight participants selected two different affiliations; the results reflect these dual identities. Affiliations grouped as “other” include alumni and write-in affiliations that the authors could not readily associate with the provided options.

Figure 5. University affiliations of participants (N = 58) in Usability Test #1.



For SQ1, 28 participants in Pools A and B received the version prompting them to define the term *database* in a library context (see Figure 1), while 30 participants in Pools C and D received the version asking them what term they call library databases (see Figure 2).

The authors coded 165 keyword responses from the first version of SQ1 into 10 thematic categories, as shown in Table 2. The “other” category captures responses that didn’t fit within a theme. In their definitions, an overwhelming majority of participants used terms that describe the

content they find within databases. Additionally, most participants defined databases as collections or containers that organize content, and half included keywords that describe actions that databases help them accomplish. Around a third of participants described databases as having a disciplinary or specialized focus.

Table 2. Keyword themes in SQ1 responses from participants in Pools A and B ($n = 28$) when defining the term *database*.

Keyword Themes in SQ1	Participants in Pools A and B ($n = 28$)	Percentage of Participants in Pools A and B ($n = 28$)
Objects: information, research, articles, data, resources, journals	25	89.3%
Collective: collection, stored, system, compile, contain, group	20	71.4%
Utility: search, access, find, download	14	50.0%
Specialized focus: related, topic, subject, theme, discipline, genre	9	32.1%
Electronic: online, digital, computer, website, links	8	28.6%
Quantity or variety: large, more, other, different, lots	7	25.0%
Credibility: peer-reviewed, trusted, facts, reliable, guide	5	17.9%
User experience: useful, usable, simple, confusing, difficult	5	17.9%
Space, place(s)	4	14.3%
Library holdings	3	10.7%
Other	4	14.3%

Similar themes arose from responses to the second version of the prompt. The authors examined 66 keywords to create 10 themes (see Table 3). While no single keyword or theme was used by a majority of participants, the most prominent theme related to the nature of the databases in the accompanying screenshot (“scholarly,” “academic,” and “peer reviewed”), and the top individual keyword was *database(s)*. The second most used keyword was *resource(s)*, provided by 30.0% of participants.

Table 3. Keywords in SQ1 responses from participants in Pools C and D ($n = 30$) when stating what they call databases.

Keywords in SQ1	Participants in Pools C and D ($n = 30$)	Percentage of Participants in Pools C and D ($n = 30$)
Scholarly, academic, peer-reviewed	14	46.7%
Database(s)	12	40.0%
Source(s), resource(s)	11	36.7%
Search engines	5	16.7%
Research, inquiry	5	16.7%
Featured, specialized	3	10.0%
Journals, articles	3	10.0%
Collections, digital libraries, warehouse	2	6.7%
External, weblinks	2	6.7%
Reference(s)	2	6.7%

The authors also examined responses by participant affiliation. Tables 4 and 5 visualize the keywords and themes present in responses from the three largest participant groups from this study: undergraduate students, graduate students, and staff. In the second version of SQ1, the two participants who identified as either a faculty member or instructor provided a single term, *database*, to describe the items.

Table 4. Keyword themes in SQ1 responses from students and staff ($n = 27$) in Pools A and B when defining the term *database*.

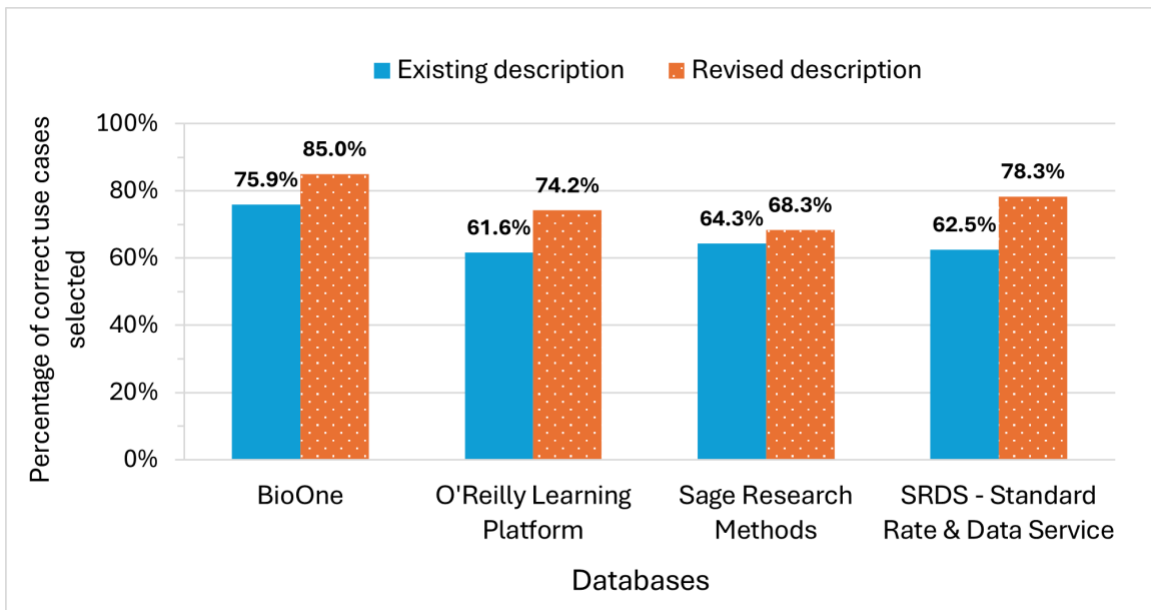
	Percentage of undergrad students ($n = 10$)	Percentage of graduate students ($n = 13$)	Percentage of staff ($n = 6$)
Keyword Themes in SQ1 from Pools A and B			
Objects: information, research, articles, data, resources, journals	90.0%	92.3%	83.3%
Collective: collection, stored, system, compile, contain, group	60.0%	76.9%	83.3%
Utility: search, access, find, download	20.0%	61.5%	66.7%
Specialized focus: related, topic, subject, theme, discipline, genre	20.0%	38.5%	33.3%
Electronic: online, digital, computer, website, links	20.0%	38.5%	100.0%
Quantity or variety: large, more, other, different, lots	20.0%	30.8%	50.0%
Credibility: peer-reviewed, trusted, facts, reliable, guide	40.0%	7.7%	0.0%
User experience: useful, usable, simple, confusing, difficult	0.0%	23.1%	33.3%
Space, place(s)	30.0%	15.4%	0.0%
Library holdings	10.0%	7.7%	16.7%
Other	10.0%	7.7%	33.3%

Table 5. Keywords in SQ1 responses from students and staff ($n = 27$) in Pools C and D when stating what they call databases.

	Percentage of undergrad students ($n = 13$)	Percentage of graduate students ($n = 8$)	Percentage of staff ($n = 9$)
Keywords in SQ1 from Pools C and D			
Scholarly, academic, peer-reviewed	53.8%	37.5%	55.6%
Database(s)	46.2%	50.0%	22.2%
Source(s), resource(s)	53.8%	25.0%	22.2%
Search engines	7.7%	25.0%	22.2%
Research, inquiry	23.1%	0.0%	22.2%
Featured, specialized	0.0%	12.5%	22.2%
Journals, articles	23.1%	0.0%	0.0%
Collections, digital libraries, warehouse	0.0%	0.0%	11.1%
External, weblinks	15.4%	0.0%	0.0%
Reference(s)	7.7%	12.5%	11.1%

In the second part of Usability Test #1, participants were asked to read four database descriptions and choose the topics, assignments, or resources for which they thought the database could be useful. Figure 6 shows the average percentage of “correct” use cases selected by participants who were provided the existing description of each database versus the revised description.

Figure 6. Percentage of correct database use cases identified by participants (N = 58) in Usability Test #1 for each database and description version (existing vs. revised).

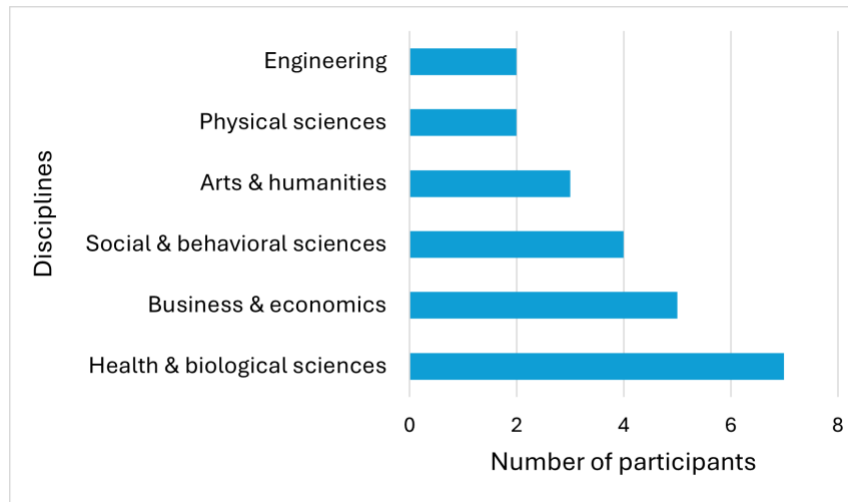


Usability Test #2

Twenty-one people participated in the second usability test, with nearly all participants (95.2%) self-identifying as students: 13 undergraduate, 3 graduate (including one doctoral), and 4 students who did not specify their degree level. Another two people identified as staff, including one participant who shared a dual affiliation as both a staff member and doctoral student.

When asked about their major, 6 of the 20 student participants provided more than one, resulting in a total of 27 identified majors across six disciplines. Some students had majors in more than one discipline, while others had double majors in the same discipline. Figure 7 illustrates the number of participants represented in each discipline, regardless of how many majors a student might have declared within the same one.

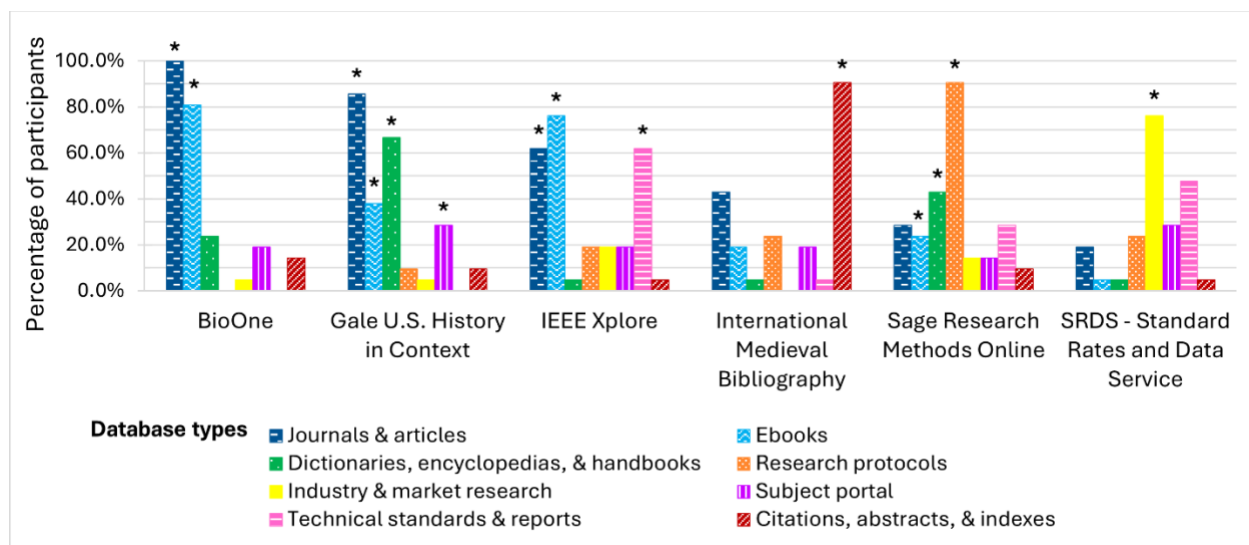
Figure 7. Student participants ($n = 20$) in Usability Test #2 by disciplinary group.



To expand on the other assessments, the authors also asked these participants to define the term *database*. Of the 21 participants, 11 provided an answer. Nearly all (72.7%) who answered used the terms *information*, *resources*, or *research* in their definitions. Other terms related to the act of searching, with 63.6% of participants using the terms *search*, *find*, *look*, or *access*. A majority of participants (54.5%) also used terms like *place*, *area*, or *center*.

During the matching activity, participants tended to match databases to the expected (“correct”) database types. Figure 8 illustrates how many participants matched each type to each database. The “correct” types for each database are emphasized by an asterisk above those bars.

Figure 8. Percentage of participants ($N = 21$) who matched each type to each database, with “correct” matches identified by an asterisk above each bar.



Databases that received higher rates of “correct” database type matches (and lower rates of unexpected or “erroneous” matches) were BioOne and IEEE Xplore. Matches for International Medieval Bibliography (IMB) and SRDS were somewhat mixed, with a strong majority of participants correctly identifying the expected types, while almost half also matched these

databases to unexpected types. Sage Research Methods demonstrated the lowest overall “correct” type matches and the highest variety of types selected. While 90.5% of participants correctly matched this database to Research Protocols, less than half correctly identified Dictionaries, Encyclopedias, and Handbooks, and around one quarter identified eBooks.

Looking closely at the use of database types, some were matched more consistently than others. To show this variance, Table 6 summarizes the rates at which each type was matched correctly to expected databases as well as erroneously to unexpected databases. Notably, the types that were correctly matched the most consistently were Citations, Abstracts, and Indexes, and Research Protocols, with Industry and Market Research following closely behind. While a higher average percentage of participants correctly matched the type Journals and Articles to its associated databases, almost one third on average matched it to other databases as well.

Table 6. Average percentage of Usability Test #2 participants ($N = 21$) matching database types to expected and unexpected databases.

Database Type	Participants Correctly Matching Expected Database(s)	Participants Matching Additional, Unexpected Database(s)
Citations, Abstracts, and Indexes	90.5%	8.6%
Research Protocols	90.5%	19.0%
Journals and Articles	82.5%	30.2%
Industry and Market Research	76.2%	10.7%
Technical Standards and Reports	61.9%	27.0%
eBooks	54.8%	11.9%
Dictionaries, Encyclopedias, and Handbooks	54.8%	9.5%
Subject Portal	28.6%	20.0%

Participants matched Subject Portal the most indiscriminately across all six databases, with less than one third matching it to the expected database (Gale U.S. History in Context). Additionally, six participants asked what this term meant during the activity. So as not to influence participant responses, the authors did not provide an answer.

While the participants of this second test did not reflect enough variety in university affiliations for the authors to parse results by this characteristic, the authors did segment results based on disciplinary group to determine if students were more likely to match the expected types to databases traditionally associated with their discipline and vice versa. Tables 7 and 8 show the average percentage of participant disciplinary groups that correctly matched each database to its expected types and each type to its expected databases, respectively. Cells highlighted in blue correlate with databases and types that the authors identified as relevant to a disciplinary group. As the results demonstrate, the authors did not observe significant differences in the matching of types or databases among these groups.

Table 7. Average percentage of participant disciplinary groups in Usability Test #2 that correctly matched databases to expected types, with blue cells representing an association between databases and disciplinary groups.

Database	Health and Life Sciences (n = 7)	Physical Sciences (n = 2)	Engineering (n = 2)	Business and Economics (n = 5)	Social and Behavioral Sciences (n = 4)	Arts (n = 3)
BioOne	92.9%	100.0%	100.0%	90.0%	87.5%	100.0%
Gale U.S. History in Context	53.6%	50.0%	62.5%	55.0%	62.5%	41.7%
IEEE Xplore	71.4%	66.7%	83.3%	66.7%	50.0%	77.8%
IMB	85.7%	100.0%	50.0%	100.0%	100.0%	100.0%
Sage Research Methods Online	52.4%	50.0%	66.7%	40.0%	58.3%	44.4%
SRDS	100.0%	100.0%	100.0%	40.0%	75.0%	66.7%

Table 8. Average percentage of participant disciplinary groups in Usability Test #2 that correctly matched types to expected databases, with blue cells representing an association between databases and disciplinary groups.

Database type	Health and Life Sciences (n = 7)	Physical Sciences (n = 2)	Engineering (n = 2)	Business and Economics (n = 5)	Social and Behavioral Sciences (n = 4)	Arts (n = 3)
Citations, Abstracts, and Indexes	85.7%	100.0%	50.0%	100.0%	100.0%	100.0%
Research Protocols	85.7%	100.0%	100.0%	80.0%	100.0%	100.0%
Journals and Articles	81.0%	83.3%	100.0%	80.0%	83.3%	88.9%
Industry and Market Research	100.0%	100.0%	100.0%	40.0%	75.0%	66.7%
Technical Standards and Reports	71.4%	50.0%	50.0%	80.0%	50.0%	66.7%
eBooks	57.1%	50.0%	87.5%	55.0%	50.0%	50.0%
Dictionaries, Encyclopedias, and Handbooks	57.1%	75.0%	50.0%	50.0%	62.5%	33.3%
Subject Portal	28.6%	0.0%	50.0%	0.0%	25.0%	33.3%

Similarly, the authors examined participant responses to pre-interview questions to see whether participants with current or previous research experience ($n = 10$) matched types and databases

differently than those without experience ($n = 11$). The authors again share results through two lenses—databases (Table 9) and types (Table 10)—to isolate these components and their effects on participant matching abilities.

Table 9. Average percentage of participants with ($n = 10$) and without ($n = 11$) research experience (RE) matching each database to expected types and unexpected types.

Database	Participants with RE Correctly Matching Expected Types	Participants without RE Correctly Matching Expected Types	Participants with RE Matching Additional, Unexpected Types	Participants without RE Matching Additional, Unexpected Types
BioOne	95.0%	86.4%	13.3%	20.5%
Gale U.S. History in Context	67.5%	43.2%	10.0%	12.1%
IEEE Xplore	76.7%	57.6%	20.0%	18.2%
IMB	100.0%	81.8%	25.0%	25.5%
Sage Research Methods Online	56.7%	48.5%	22.5%	20.0%
SRDS	100.0%	54.5%	22.5%	24.7%

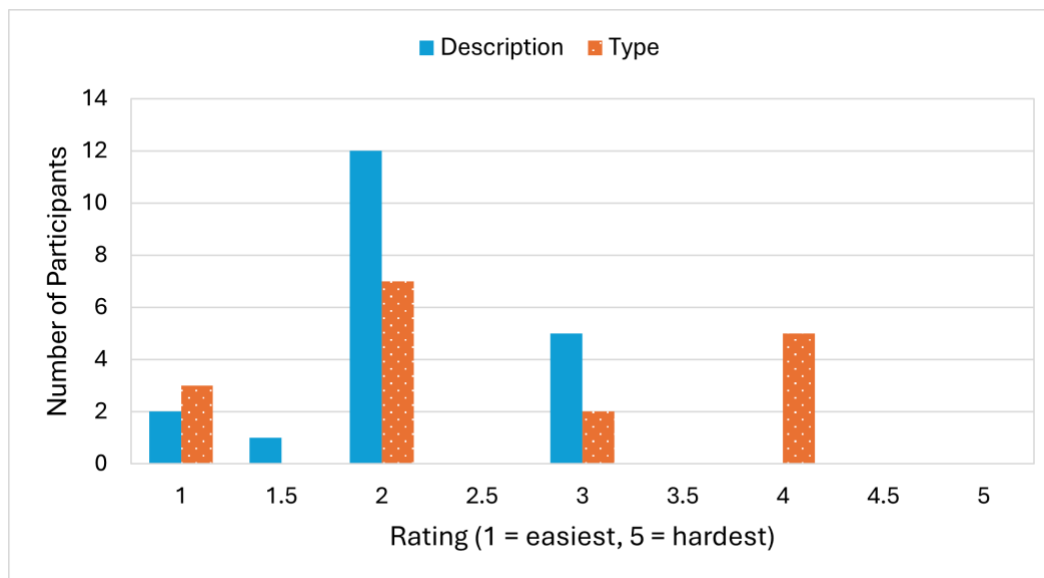
Table 10. Average percentage of participants with ($n = 10$) and without ($n = 11$) research experience (RE) who matched each type to expected databases and unexpected databases.

Database Type	Participants with RE Correctly Matching Expected Databases	Participants without RE Correctly Matching Expected Databases	Participants with RE Matching Additional, Unexpected Databases	Participants without RE Matching Additional, Unexpected Databases
Citations, Abstracts, and Indexes	100.0%	81.8%	10.0%	13.6%
Research Protocols	100.0%	81.8%	13.3%	25.0%
Journals and Articles	83.3%	81.8%	30.0%	30.3%
Industry and Market Research	100.0%	54.5%	20.0%	15.9%
Technical Standards and Reports	80.0%	45.5%	26.7%	40.9%
eBooks	55.0%	54.5%	0.0%	22.7%
Dictionaries, Encyclopedias, and Handbooks	75.0%	36.4%	20.0%	13.6%
Subject Portal	60.0%	0.0%	24.0%	20.5%

During the post-interview, 17 participants provided ratings for the understandability of database types ($n = 17$) and descriptions ($n = 20$) on a scale of 1 to 5 from easiest to hardest (see Figure 9).

The mean ratings for types and descriptions were 2.5 and 2.1, respectively, with a mode of 2 for both.

Figure 9. Participants' understandability ratings for database descriptions and types in Usability Test #2, with a rating of 1 being easiest and 5 being hardest to understand.



One participant said that understanding the types was “harder than [their] econ exam,” yet rated their difficulty at a 3. One who rated their difficulty as a 4 added that they rated them higher on the scale because they thought all of the types could go together, making it challenging to discern differences. Another shared a similar experience, stating that they all felt similar, related, or broad. One participant who did not provide a quantitative rating shared that they did not know a lot of the types. Fewer details were provided by participants when rating descriptions, but responses illustrate mixed experiences: “not that hard” (rated at 2), “pretty difficult” (rated at 3), and “understandable” (no rating captured).

DISCUSSION

Defining and Understanding Database as a Term (RQ1)

Overall, most participants understood the term *database* in a library context regardless of their discipline, research experience, or affiliation at the U of A. While they were not as likely to procure this exact term when referring to these resources in their own words (with staff members being the least likely to do so), they still demonstrated a strong understanding of database content and function. In each assessment, participants consistently described databases as searchable collections of information and data resources, with many participants also connecting them to scholarly research specifically. The main differences that stand out are that undergraduate students were more likely to use words associated with credibility in their definitions and less likely to focus on utility in comparison to graduate students and staff. The authors believe this could indicate that U of A undergrads receive more instruction on foundational information literacy concepts like evaluating sources for accuracy and trustworthiness than the other campus groups.

From the talk-back board and usability tests, the authors did note some hesitation or lack of confidence in respondents when asked what a database is, despite answering correctly

(“databases—like JSTOR?” or “Is PubMed one?”). Another finding that challenges *database* understandability is the prevalence of generative AI tools mentioned on the talk-back board. In answer to the prompt “What’s a research database?,” more than a third of the combined responses and votes revealed that users confuse AI tools for databases. AI did not come up in definitions or descriptions during the other assessments, so these interactions represent a small number of participants in the context of the whole study. Looking forward, the authors anticipate that as database and discovery layer vendors increasingly incorporate AI functionality into their products, defining and differentiating these two concepts may become increasingly challenging for users.

Understanding Database Content and Potential Applications from Its Description (RQ2)

As reflected in the results from the first usability test (see Figure 6), revising database descriptions according to user-centered principles like those recommended by the UAL Editorial Style Guide (see Appendix A) is more likely to help users identify correct database use cases in comparison to relying on vendor-provided descriptions that may be lengthy, vague, or jargon-heavy.

The second usability test helped validate this conclusion as the authors intentionally included only the revised descriptions in this assessment. For most databases in the matching activity, participants were able to correctly identify and infer the main content types based on each database’s revised description. Databases that received lower rates of correct matching informed the authors which descriptions need more revision to enhance clarity. They also hope these findings will help them identify other databases on their A–Z list whose descriptions might be similarly challenging, so they can prioritize these for revision next.

One finding that surprised the authors is that a user’s disciplinary affiliation did not significantly impact their understanding. While they expected participants to match databases to types more correctly when the database related to their discipline—whether in comparison to participants outside that discipline or in comparison to how they matched other databases—this did not occur. Thus, disciplinary affiliation did not predispose participants to understand databases more traditionally relevant to their studies (e.g., IEEE Xplore for engineering) any better than someone outside that discipline.

A characteristic that did reveal differences in understanding was one’s experience with doing research. Participants with previous or current research experience matched databases to expected types more often than those without experience, indicating a correlation between research experience and better understanding of database content and applications. That said, no connection was found when it came to erroneous matches—both groups of participants were similarly prone to matching a database to additional, unexpected types. Overall, the authors think that the impact of research experience might be better understood through explorations into the timing of information literacy instruction in relation to relevant research applications or the benefits of hands-on experiential learning versus other teaching methods.

Understanding and Associating Database Types (RQ3)

Usability Test #2 results similarly show that a participant’s discipline does not correlate with their ability to correctly match and understand types, but that research experience does. Types that prove exceptional to these findings are Journals and Articles and eBooks, leading the authors to believe that these two types are more commonly understood, regardless of research experience. Based on the higher frequency with which participants matched Journals and Articles to

additional, unexpected databases, another interpretation could be that users strongly associate these content types with databases and assume their presence, regardless of their descriptions or type assignments.

As with the findings for RQ2, research experience does not make a significant difference when it comes to erroneously matching types to additional databases.

Just as this assessment revealed that some revised descriptions were still difficult to understand, the authors also learned that some types were still too ambiguous. Specifically, the type least understood was Subject Portal. Not only was this type matched to its expected database the least (by only 28.6% of participants), but several participants asked for clarification of this type during the study. Another notable type was Technical Reports and Standards. While this type appeared to be well understood in that it was correctly matched to IEEE Xplore by most participants, nearly half also matched it to SRDS. The authors observed that it's possible that the database's name, Standard Rates & Data Services, misled participants to associate the two due to the common term *standard(s)*.

The authors also noticed some challenges with understanding types that are related or similar. The authors found a correlation with users' matching Articles and Journals to a database when they also matched Citations, Abstracts, and Indexes, even if the database description did not mention full access to articles or journals. This observation could mean that while library staff think that the type Articles and Journals implies access to the full-text and not to citations or abstracts alone, this distinction might not be as clear to UAL users.

LIMITATIONS

Research Design

An inherent limitation of website environmental scans is that websites can, and did, change over the course of the assessment. This scan was very much a point-in-time evaluation. Further, determining the library-created versus vendor-provided descriptions was at times challenging and subjective.

The authors also perceived limitations to the usability tests conducted. For Usability Test #1, the A-Z list screenshot in the SQ1 version sent to Pools C and D included snippets of databases and their descriptions. These summaries could have influenced the terms that participants provided in their responses when asked to state what they call these resources.

Sample Populations

Although usability testing does not require large sample sizes, the authors acknowledge that there may be limitations to the conclusions they can draw based on (1) possible bias in participant recruitment, and (2) participant representation of the U of A campus community.

Because participants were recruited from the UAL voluntary UX Participant Pool and the Main Library lobby, they all had some level of prior experience with, interest in, or understanding of academic library services, resources, or spaces, which could have predisposed them to a more "correct" understanding of databases than those who have never interacted with the library.

The diversity of university and disciplinary affiliations also has some limits. For example, engagement with the talk-back board was anonymous, so demographics and even the number of participants are unknown. For the usability tests, faculty representation was sparse. Only a few faculty members are represented in Usability Test #1, and no faculty or instructors are

represented in Usability Test #2. In fact, most participants of the second test were undergraduate students ($n = 13$), but because the authors did not consistently ask follow-up questions to those who identified as students to differentiate their classification, four students were “unknown.” If these students were mostly undergraduate, student participants would have represented the overall student population fairly well in terms of numbers—according to the U of A’s enrollment statistics for fall 2025, 80% of students were undergraduate and 20% were graduate or doctoral students. Limitations in student representation relate more to disciplinary diversity. For one, the authors could not extract academic program affiliation from the UX Participant Pool in Usability Test #1 as originally anticipated, so these data only exist for Usability Test #2. Additionally, among those student participants, the authors saw very little representation from majors in the arts and humanities, engineering, and physical sciences, as well as social science majors outside of business and economics disciplines.

CONCLUSION

The authors conducted these assessments as a case study to explore factors that impact library users’ understanding of database terminology, descriptions, and A–Z list types at the U of A, paying particular attention to the impact of user characteristics like discipline of study, university affiliation, and research experience. Through an environmental scan, the authors confirmed *database* to be a dominant term on library websites. Results from a talk-back board and two usability tests demonstrated that most respondents could accurately define and describe these resources, leading the authors to believe that the term *database* is not jargon to their library users. Based on the talk-back board, the authors note that the popularity of AI tools could disrupt this understanding in the future.

By conducting usability tests centered on database descriptions and types, the authors found that users identified database use cases more correctly when reading user-centered descriptions than jargon-heavy, vague, or vendor-centered descriptions. Further, they observed that most users could correctly identify database types based on a database’s revised description, validating the effectiveness and greater understandability of user-centered language. They discovered that while no relationship exists between a user’s academic discipline and their understanding of various descriptions and types, having research experience does correlate with increased understanding of these features.

Together, these assessments helped the authors identify jargon on their A–Z list and create a plan for prioritizing improvements to increase understanding and discovery. The authors intend to continue using the term *database* as needed on their library website, instead focusing their efforts on revising database descriptions and type labels to reduce jargon. Specifically, they will re-implement the recommendations for database descriptions outlined in the UAL Editorial Style Guide (see Appendix A), paying close attention to descriptions that continued to pose challenges despite revision. They also plan to eliminate Subject Portal as a type and will establish a workflow to periodically re-evaluate types and other list filters for jargon and vague terminology.

Future studies might explore how database names impact a user’s decision-making process when selecting databases for research projects. While database naming conventions are beyond the control of individual libraries, such exploration could be valuable to new or existing vendors in the library and education market and thus impact researchers. Additionally, having learned that user-centered descriptions are more understandable to their users, the authors are interested in examining database usage statistics to see if increased understandability correlates to increased usage.

APPENDIX A: DATABASE DESCRIPTIONS, FROM THE UNIVERSITY OF ARIZONA LIBRARIES' (UAL) EDITORIAL STYLE GUIDE

Excerpt from pages 26–27 of the UAL Editorial Style Guide.

Database Descriptions

Good database descriptions should:

- Help a user make a decision as far as whether or not to use the resource.
- Make it succinct and easy to read/scan for the user to make an informed decision.
- Use active voice, as if you were speaking to the user directly.
- Be short—one sentence is usually best.

Things to Include

Include information that will help users decide whether the database fits their needs:

- Type of material (format), such as articles, books, ebooks, images, films, etc.
- Date range covered (usually)
- Anything unique about it, such as:
 - Relationship with a professional association
 - Titles included (probably no more than five)
 - If it is citations only (not full-text)
- Its strengths and what it's most useful for, such as:
 - Topics included, such as gender studies, business, life sciences (probably no more than five)
 - Types of materials included, such as films, images, newspapers (probably no more than five)
 - Helpful and unique search features included, such as the ability to search for play scripts by number of speakers or the ability to limit to NAICS code
 - "Complete" for full-text (if it's unclear)
- Its audience, when distinct (such as medical professional vs. consumer)

Do Not Include

Do not include information that is irrelevant to users or that will be out of date before we know it:

- Number of articles or journal titles included
- Format types, if they tend to change frequently
- Date last updated
- Date range, if it may change frequently

APPENDIX B: USABILITY TEST #1 SURVEY QUESTIONS 2 THROUGH 5 FOR ALL POOLS

Here are descriptions of some resources available on the library's website. Tell us what you think they're for.

SQ2: What assignment(s) do you think this resource might be helpful for?

*Pool A: **SRDS – Standard Rate and Data Service:*** SRDS is a database of media rates that catalogs more than 100,000 U.S. and international media properties.

Pool B: SRDS is a database of media rates that catalogs more than 100,000 U.S. and international media properties.

*Pool C: **SRDS – Standard Rate and Data Service:*** Find advertisement costs and subscriber numbers for media outlets including TV & radio channels, podcasts, newspapers and magazines. Browse the Multicultural & Inclusive category to research media with diverse or underrepresented audiences.

Pool D: Find advertisement costs and subscriber numbers for media outlets including TV & radio channels, podcasts, newspapers and magazines. Browse the Multicultural & Inclusive category to research media with diverse or underrepresented audiences.

Check all that apply.

- Estimate the cost to run an advertisement in a newspaper [CORRECT]
- Compare and contrast TV show ratings
- Analyze real estate properties
- Create a marketing campaign for reaching the LGBTQ+ community [CORRECT]

SQ3: What information do you think this resource might help you find?

*Pool A: **O'Reilly Learning Platform (formerly Safari Books Online):*** Access thousands of ebooks on the world's most comprehensive technology and business learning platform.

Pool B: Access thousands of ebooks on the world's most comprehensive technology and business learning platform.

*Pool C: **O'Reilly Learning Platform (formerly Safari Books Online):*** Find ebooks, audiobooks, videos, and short online courses to learn about programming languages and trends in computer science, management, marketing, and leadership.

Pool D: Find ebooks, audiobooks, videos, and short online courses to learn about programming languages and trends in computer science, management, marketing, and leadership.

Check all that apply.

- An audiobook on a popular business topic [CORRECT]
- An ebook on computer programming languages [CORRECT]
- An ebook on social media marketing [CORRECT]
- A video on generative AI [CORRECT]

SQ4: What research topic(s) do you think this resource might be helpful for?

Pool A: BioOne: Find articles in bioscience research, such as global warming, stem cell research, and ecological and biodiversity conservation.

Pool B: Find articles in bioscience research, such as global warming, stem cell research, and ecological and biodiversity conservation.

Pool C: BioOne: Find journal articles and ebooks on biological, ecological, and environmental sciences, including zoology, plant science, agriculture, geology, conservation, and veterinary science.

Pool D: Find journal articles and ebooks on biological, ecological, and environmental sciences, including zoology, plant science, agriculture, geology, conservation, and veterinary science.

Check all that apply.

- Animal nutrition [CORRECT]
- Climate change [CORRECT]
- Corporate social responsibility
- History of farming [CORRECT]

SQ5: What assignment(s) do you think this resource might be helpful for?

Pool A: Sage Research Methods Online: Find books, encyclopedias, and dictionaries and use tools to explore research methods. Note: U of A's subscription includes primarily books and reference, but does not include all the datasets, or most of the videos.

Pool B: Find books, encyclopedias, and dictionaries and use tools to explore research methods. Note: U of A's subscription includes primarily books and reference, but does not include all the datasets, or most of the videos.

Pool C: Sage Research Methods Online: Find books and definitions for research methods, plus learn how to conduct a research project from case studies, podcasts, and videos.

Pool D: Find books and definitions for research methods, plus learn how to conduct a research project from case studies, podcasts, and videos.

Check all that apply.

- Design a consumer survey using a Likert scale [CORRECT]
- Describe the difference between qualitative and quantitative research [CORRECT]
- Find a case study for a project that uses observational research [CORRECT]
- Find a peer-reviewed empirical research article

APPENDIX C: USABILITY TEST #2 ACTIVITY WORKSHEET WITH DATABASES AND DESCRIPTIONS

Participant #:

What Type of Database Is This?

Put stickers below each database that you feel represents that type. You can add more than one type per database, and each type can be matched to multiple databases.

BioOne

Find journal articles and ebooks on biological, ecological, and environmental sciences, including zoology, plant science, agriculture, geology, conservation, and veterinary science.

Gale U.S. History in Context

Find books, articles, overviews and definitions, biographies, and original historical documents that explore events and viewpoints in U.S. history—from diaries of enslaved individuals to presidential papers.

IEEE Xplore

Find articles, ebooks, conference proceedings, and technical standards for electrical, mechanical, and computer engineering, plus environmental sciences, healthcare, and architecture.

International Medieval Bibliography

Find citations to articles, essays, conference proceedings, and festschriften, about all aspects of medieval life, covering Europe, the Middle East, and North Africa in the period 300–1500.









Sage Research Methods Online

Find books and definitions for research methods, plus learn how to conduct a research project from case studies, podcasts, and videos.

SRDS – Standard Rate and Data Service

Find advertisement costs and subscriber numbers for media outlets including TV & radio channels, podcasts, newspapers and magazines. Browse the Multicultural & Inclusive category to research media with diverse or underrepresented audiences.

APPENDIX D: USABILITY TEST #2 DATABASE TYPE AND COLORED DOT LEGEND

	Journals & articles
	Ebooks
	Dictionaries, encyclopedias, & handbooks
	Research protocols
	Industry & market research
	Subject portal
	Technical standards & reports
	Citations, abstracts, & indexes

ENDNOTES

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