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Uncovering the Comfort Levels of Students Who Are Conducting Library Research

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Introduction

Much research has been conducted on how students, especially first-year students, do library research.[1] The literature contends that college students regularly rely on Google and other common web-based resources that they are familiar with, rather than use proprietary library scholarly databases. In addition, students can feel overwhelmed or think because they can use web browsers, they will excel at library research.[2] When teaching information literacy in a variety of different instructional contexts such as one-shots or embedded in courses, librarians experience many examples of these teaching and learning challenges. However, by gathering data from these students about library research, librarians will get a better sense about student perceptions and anxiety about library research. But what is really underlying this level of discomfort? What are student expectations about library research? This case study presents findings gleaned and lessons learned from asking students about their perceptions and comfort levels related to conducting library research. Data were collected in thirty-one lower-level classes at a large public institution in the US Mountain West with an undergraduate enrollment of just less than 25,000 undergraduate students. Evidence collected was then used to re-evaluate and improve library information literacy instruction for the author in future semesters. In addition, data collected about what students think about doing research can also be used by librarians to redesign instructional sessions. In librarianship, there is a growing emphasis on taking an evidence-based practice (EBP) approach and reflect on research findings to generate new questions and inform changes in teaching practice.[3]

Literature Review

Project information literacy has been studying freshman students and how they use library resources since 2008 and have reported that 80 percent of students claim they do not often ask librarians for help.[4] Instead, students prefer to use open search engines such as Google and Wikipedia because they are familiar to them and they use them for personal research tasks.[5] The literature also contends that students think they have a high confidence level when it comes to doing academic research because they think if they know how to use Google and the Internet then they will know how to do academic research. Therefore, it becomes important for librarians to gather data about student learning experiences and library research perceptions of the students in front of them. Collecting data in a systematic way, as compared to an anecdotal approach, provides concrete evidence that can be integrated into decision-making processes. This rigorous practice of evidence-based decision-making can then be used to improve practice and rationalize change. Planning, teaching, and assessing one-shots, which has been the traditional approach to teaching research skills, does not often yield opportunities for librarians to engage and establish relationships with students.[6] Embedded librarianship, a growing instructional trend, where librarians partner with faculty and become embedded in a class on a more frequent basis, provides more opportunity for student-librarian interaction.[7] However, the reality is that there are many different library instruction formats occurring each semester at any given university or college that can depend on staffing, teaching and learning cultures, and relationships with faculty partners. Emerging strategies from the literature focus more on experiential sessions, more authentic assessment strategies, and more thoughtful design of library sessions using instructional design methods. Gathering student data about student perspectives on the research experience and library instruction can identify places where students get stuck and can also improve learning outcomes.[8] Collecting student feedback can also help to improve future library instruction planning, identify needs students still have after instruction, as well as make recommendations for improving instruction.

Methods

This SoTL project involved a classroom case study approach[9] driven by questions about student library research comfort levels. Anonymous survey data was collected in thirty-one lower-level class sections and provided student perspectives and insights about the academic research process. The population of students participating in this study was primarily freshmen and sophomores taking writing-intensive courses with a research component. The same librarian taught all classes, which included one-shots, embedded librarian sessions, accelerated sessions, as well as developmental courses. Library session pre- and post-surveys, which contained eight quantitative Likert-scale questions and several open-ended questions, were first pilot-tested in three sections of the same course, then administered in twenty-eight different sections. Pre-surveys were administered before the library sessions, and all post-surveys were collected during the last week of the semester.

Results

A total of 1,217 surveys were collected across three semesters. Mean Likert-scores for each pre-and post-Likert-question were calculated with SPSS. The lowest student comfort levels across all the different course section types were lack of comfort in (1) using the library catalog and (2) finding books in the library stacks. The two highest means showed students very comfortable using (1) Google and other web search engines, and (2) knowing what a citation is and using citations in writing. Although additional statistical analysis was done on the pre- and post-survey data, findings from the qualitative data yielded much more interesting results for uncovering student concerns and potential for improving library instruction. Seven hundred and ninety-six unique comments were coded, categorized, and analyzed. In the pre-survey, students were asked: (1) What are your expectations for the library session and doing research? and (2) What do you want to learn about library research? In the post-survey, students were asked: (1) What questions do you still have about doing library research? and (2) What was the most valuable thing you learned in this library research session? The comments were then coded using constant comparative qualitative methods[10] of coding and categorizing the comments line by line. Coding of the comments resulted in five categories: (1) learning about library research resources, (2) valuing library resources, (3) becoming a more effective/efficient researcher, (4) other library resources, tools, and support, and (5) expressing anxiety and needs.

Discussion and Conclusions

Although much research has been published on how students go about *doing* research and *using* library resources, this project focused on uncovering the perspectives and needs of student researchers learning to do academic research. The findings provided valuable evidence that led this librarian researcher to explore alternative teaching practices and redesign curriculum. Although the case study research findings are not new or earth-shattering related to habits of novice information literacy students, findings were invaluable for rethinking library research instruction to meet the students where they are in the library research process, for uncovering perceptions of novice researchers, and providing a framework for redesigning library instruction sessions and materials.

Uncovering Student Perceptions, Needs, and Concerns about Library Research

The biggest takeaway from this project for this author was the need to communicate explicitly more often with students about their library research needs and anxieties by taking time during instruction to be open to student comments and their concerns, and then acting on their comments to improve instruction. The coding and categories that emerged from the open-ended comments shed light on student library research anxiety

and concerns. From experience, this librarian researcher knows that students rely heavily on open-web search engines to do research; in this study, the web-based tool comfort level score was the highest score in all sessions. It was also the score that changed the least from the pre- to post-survey. Student anxiety about doing library research became clear when they were asked to use tools they were not comfortable with. A comment that expresses this student library anxiety is: "How to use the college library … it's big and it scares me." Students also expressed concerns about not knowing where to start using library research tools and concerns about how using library-related tools required a different process and developing new skills. The pre-survey comments contained 63 percent of the anxiety codes. Therefore, formative classroom assessment techniques, or CATs,[11] are now incorporated into this researcher's library instruction sessions—even one-shot sessions. Students provide concepts they still do not understand (muddiest points) at the end of instruction so the instructor can provide additional resources or tutorials for those topics identified by students. In addition, presenting students with an opportunity during library instruction to reflect on their expectations and concerns about library research resulted in them asking new questions based on what they were learning about, which resulted in more engagement in the research process.

There were also pre-post differences in the language or vocabulary that students used to refer to research. In the pre-survey, students spoke in general terms about using the library, but in the post-survey, student comments reflect more honed responses citing specific library resources, like scholarly databases, books, and articles. In the post-survey, students had more questions about access and usage of specific library tools and resources and services that they did not know about before the session. Reflecting on the pre- to post-survey vocabulary differences resulted in changes to this author's teaching practice, such as being more explicit about using academic research vocabulary. As new vocabulary is defined and described, examples are provided to help them build new knowledge based on their prior web-based searching knowledge. Knowing how valuable the web-based tools are to this groups of students, Google hacks and tips were also included in the instruction sessions to help them see how the tools they commonly use could be used even more efficiently. Instead of discrediting web-tools, instruction now includes recommendations for why and when to use types of tools. In addition to better articulation and communication with students, future plans for research related to this finding also includes better integration of the ACRL frames into this student-centered approach to presenting library instructional materials.

Rethinking of the Presentation of Library Instructional Materials

In addition to including more explicit vocabulary and reflection so students can relate prior experiences to the academic research process, findings from this study also resulted in changes to how this instructor presents library instructional to the novice library researchers. Seventy-three percent of the student pre-survey expectation comments were

related to students saying they wanted to become more efficient/effective researchers. In these pre-comments students also talked about how they wanted to be better at research but did not know how to do that. Reflection on this finding resulted in the author rethinking how instruction materials could be organized and presented to show them how to be more effective researchers. This resulted in less of a focus on clicking through a series of library tools, databases, and journals. This author redesigned the presentation of library instruction, "The Five Top Strategies for Being an Effective Researcher," and shifted the focus from *how* to use the library resources to *why* to use library resources. Instead of presenting a list of tools and databases, the library sessions are now designed around a framework for doing research in a more effective way. The five strategies being used are: (1) go abroad to start (use Google and Google Scholar), (2) dig down deeper (disciplinary databases), (3) mine good sources (for keywords and references), (4) develop a research toolbox (to stay organized with tools like citation management software and cloud storage tools), and (5) ask for help and use available support. For example, this instructor now uses Google Scholar to show students how to begin research by going broad and demonstrate the international scholarly conversation around their topic. Using this framework for one-shot presentations has appeared to help students follow a process for research. After working with this "Strategies for Effective Researcher" framework for planning library instruction for novice lower-level researchers, it became evident that this framework could be adapted for multiple library sessions and enhanced for graduate student library sessions.

Using this strategies framework also makes it is easier for this librarian to talk in non-library lingo to faculty partners and customize instructional sessions. Some faculty want a deeper dive into one or more of the strategies and it has become easier to design new instruction grounded in a process rather than a list of research tools to demonstrate. For example, using strategy #1, to begin by going broad, students do a broad scan around their topic using Google Scholar or more general databases and then use concept mapping to map out subtopics so they can create keywords to dive in deeper to their topic (strategy #2).

The survey results also included significant student comments about the students' perceptions for a need to practice to become good researchers. So, the process for instructional sessions for this instructor has evolved into briefly presenting one of the strategies and then turning it over to students to practice that strategy, even if for just brief a time in a one-shot session. In a fifty-minute one-shot, there is time for ten minutes on each effective research strategy.

Redesign of Library Instructional Materials: Beyond the Classroom Experience

Another valuable finding that came out of this research that has impacted this author's teaching practice was the realization that students needed continued support beyond the classroom experience. The open-ended comments from the end of semester post-survey demonstrated that now that students had learned about how to find and use databases, journals, books, and other library services, they had new and/or more complex questions

about other library services and support. The largest category of coded comments in the post-survey questions was related to the category Other Library Resources, Tools, and Support. Students' questions reflected more advanced questions about resources and services the author had discussed in the session and questions about library services and resources I had not even talked about, which indicated that they had explored the library and what the library had to offer them post-instruction. Examples of comments coded in this category are: "What do I do when ILL is unable to get me a book?" and "How do I rent out one of the study rooms in the library for future use?" They did not know what questions to ask in the one-shot session, but they did have questions by the end of the semester post-survey.

To meet the needs of continued support for student post-instruction, an online support website was designed and implemented. Due to retirements and decreasing first-year student librarian teaching support, it was not feasible for a single librarian to provide continued support to all these classes. Therefore, the option of designing an online library resource in the university's learning management system, Canvas, to meet the needs of the many different types of library sessions appeared to be the only viable option. The website contains a library FAQ section to help students who said they did not know where to get started; it contains all the getting-started resources organized by questions like, How do I get started? Where can I find…? and How do I…? The design and organization of the FAQ section of the online resource resulted from the student comments about their anxiety with using the library and feeling that they did not know where to start in the research process. The top five strategies for effective research framework used in the face-to-face instruction are also posted here with additional links and resources so students can pick up where they left off in class. The online research materials in this section, are organized into the similar five strategies framework to help students feel comfortable about the content and see familiar strategies and resources so they can continue to learn about conducting library research on their own. To address the research findings of library anxiety and finding physical books in the library that emerged from the research as one of the most common student concerns, this open web resource also contains a step-by-step process about how to find a book in the library. In addition, a single flipped instruction class lesson with tutorials is included for other library instructors that can be used to help students find a book in the catalog and then bring the call number to class where they go out into the stacks as a group (to alleviate anxiety) to find books instead of meeting in a computer lab. This online resource also provides support in a variety of formats (text and video) to meet different student needs, such as self-directed modules and downloadable handouts. Each section of the online resource was developed to address the research themes, concerns expressed by students, or to answer questions students still expressed at the end of the semester.

In conclusion, data and evidence from this study were shared with faculty partners to help garner support for continued and expanded academic research instruction. Several faculty concerned about the low mean scores for students related to not being able to find physical books in the library have resulted in faculty scheduling additional flipped library sessions to go out into the book stacks. The resulting collaborative problem-solving

and decision-making process between the librarian and faculty members has also set a new expectation for partnership processes going forward. For this librarian researcher, conducting this classroom research and sharing data and findings with faculty partners have resulted in strengthening faculty-librarian relationships and identified new areas for collaboration. New doors have also been opened for this librarian in the areas of online library instruction development and faculty-librarian conference presentations. This enhanced collaboration model around identifying problems and conducting research has resulted in a deeper and more meaningful focus on learner-centered teaching and student academic success that will hopefully result in the continued scholarship of teaching and learning classroom projects.

ENDNOTES

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