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STUDENT USE OF LIBRARY RESEARCH GUIDES FOLLOWING LIBRARY INSTRUCTION

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ABSTRACT

Librarians commonly provide students who attend one-shot library instruction sessions with research guides they can refer to once class is over. These guides, whether paper or electronic, serve to remind students of key points and resources addressed during the session. It is unclear, though, if and how students refer to these guides once leaving the classroom. In this article the author reports on the results of two focus groups made up of students who attended a basic library instruction session as part of a survey art course. The students discussed how they used paper and electronic research guides, and also what they would like research guides to provide.

INTRODUCTION

The mainstay of many library instruction programs is the one-shot session in which librarians are given a single class to teach students how to conduct library research. These sessions may serve to familiarize students with the library in general or to address the skills needed for specific assignments. Recognizing the limitations of single class sessions, librarians routinely provide students with supplemental research guides to reinforce the main points covered in class, and to provide additional information. In the past, these guides were primarily paper handouts, but recently developed applications, including Library a la Carte and LibGuides, have made the creation of online research guides more practical and common.

Despite the heavy reliance that librarians place on research guides, little is known about the nature of their use once students are working independently; several questions have yet to be addressed. What happens, for instance, to research guides once library instruction sessions have ended? Are paper guides still relevant for today's students, who are more accustomed to online environments and confident in their own searching skills, or are they readily disposed of following the session? Do students take the initiative to return to electronic research guides after the instruction session, and if so, how do they interact with them?

Because one-shot instruction commonly involves short sessions in which a lot of information is covered, research guides can provide needed follow-up instruction to students at the point when they are conducting their research. Librarians often devote significant time and effort into developing these guides. However, that time

and effort is wasted if students do not refer back to them, or if students find them inadequate for the purpose of their own research. This study explores the questions of how students interact with research guides, and how useful they find research guides to be.

LITERATURE REVIEW

History

The development of library guides has long been seen as a valuable service provided to students. Although originally created for the benefit of librarians, guides began to be seen as teaching tools in the 1960s and 1970s (Smith, 2008). Adams (1980) outlined the many approaches to library guides, tracing their use through the previous two decades as a means of helping students to learn independently about research methods while freeing librarians from being overloaded with instructional and reference responsibilities. As interest in library instruction increased throughout the 1980s, so did the interest in printed instructional materials that could assist users in navigating access points, indexes, and other frequently relied upon research tools (Mensching, 1989).

The World Wide Web ushered in a new phase of research guide delivery. Although computer programming was not new, Au and Tipton (1997) noted that early computer programming such as ASCII and DOS were too cumbersome for the dynamic needs of instructional librarians who were creating research materials that could be quickly adapted for varying subjects and student needs. The relative ease of hyper-text markup language (HTML) added flexibility to the development and revision of library guides, and it provided a newly accessible format for students. Although HTML guides were more practical than those created with

earlier programs, they did require specialized programming knowledge and could be time consuming to develop and maintain. Many guides of the time quickly became outdated, proffering incorrect information and broken links.

Librarians continued to adapt to evolving technologies in order to streamline the process of creating and maintaining guides. Vileno's (2007) literature review on pathfinder development outlined various attempts to streamline research guides utilizing templates, web guide publishing applications, content management systems, and wikis. Commercial products began to emerge to serve the specific purpose of building online research guides, including the highly popular LibGuides from Springshare.

Paper Versus Online Research Guides

As online research guides gained prominence, librarians began to question the need for and efficacy of the old standby, paper guides, commonly referred to as handouts. In 2007, a series of postings to ILI-L, an email discussion list dedicated to information literacy issues, grappled with the question of the effectiveness of handouts in general, as well as the benefits of online versus paper formats. While some contributors to the thread believed paper handouts were a vital part of bibliographic instruction sessions, others felt handouts were only helpful if posted online, or they doubted the efficacy of handouts altogether. Supporters of paper guides asserted that they provided opportunities for students to take notes, and that they provided another medium of instruction for those who are more visual learners (Zimmerman, 2001). Opponents to paper handouts claimed that contemporary students do not utilize step-by-step guides the way that students in the past

did, and that handouts are not therefore worth the excessive amount of time and wasted paper (Tedford, 2007).

Much has been written regarding the effective design of research guides whether they are delivered in print (Kapoun, 1995), on a library hosted web site (Dahl, 2001, Gilmour, 2010, Morville & Wickhorst, 1996), or via LibGuides (Gonzalez & Westbrook, 2010, Roberts, 2011). Studies have been conducted that address the different nature of print and electronic guides and the unique challenges of moving guides online. Dahl (2001) noted that the nature of the online environment adds an opportunity for complexity that can add both to the guides' possibilities and their potential problems:

Printed pathfinders tend to be simple and straightforward in structure. There is a tendency to abandon this simplicity in electronic pathfinders, largely because it is easy to provide links to so many other Web pages, where explanations about the library catalog and journal indexes are provided...One could follow these and other links almost endlessly, it seems, which make the pathfinders sprawling rather than compact (p. 236).

One of the stated benefits of online guides in general, and LibGuides in particular, is the opportunity to add Web 2.0 features such as chat widgets, RSS feeds, and user interactivity. Morris and Bosque (2010) noted multiple benefits to using Web 2.0 tools within subject guides, mentioning that not only were students more familiar with these technologies, but that they could make work easier for overburdened librarians: "Tools such as blogs and wikis ease the updating of resources for those without

technical skills and make it easier for them to make changes at any location” (p. 190). Unfortunately, these authors found when reviewing a number of library sites that few librarians take advantage of such features within their subject guides.

Research Guide Assessment

Librarians have used various means to assess how students use online subject guides. Charles Dean (1998) at the University of Wisconsin Madison employed a variety of approaches to evaluate the usage of the University’s biology subject guide, including different approaches for evaluating faculty, graduate student, and undergraduate use. By employing sample exercises requiring usage of the guide and focus groups, he determined that the use of unfamiliar library terminology was a barrier for undergraduate students.

Usability studies related to electronic research guides suggest that moving guides online does not ensure their use. In an article published in 2004, Reeb and Gibbons reviewed a number of such studies. They concluded that students do not naturally make the leap between their own specific research needs and the information provided by guides addressing larger subject areas:

Undergraduate students’ mental model is one focused on courses and coursework, rather than disciplines. This mental model is not well suited to library subject guides that require an understanding of disciplines and do not impact the needed personalization or customization. (p. 126).

Reeb and Gibbons’ suggested solution to the problem was to design the research guides around courses rather than broad subjects. Other studies support Reeb and Gibbons’

conclusion. Research conducted at San Jose State University (Staley, 2007) and San Francisco State University (Foster, 2010) noted that students at their institutions are most likely to use an online research guide following in-person instruction. Gonzalez and Westbrook (2010) noted that introducing guides as part of a class instruction session helped to provide students with a context to the guides, and in fact, at New Mexico State University, course-specific guides received much more use than more general subject guides. “The first semester that LibGuides were available to NMSU users, the guide created as a supplement to a first-year business class assignment received more hits than all 26 subject guides combined” (Gonzalez & Westbrook, 2010, p. 648). A researcher at East Tennessee State University also found that LibGuides created in consultation with instructors and embedded into course sites received the greatest use (Adebonojo, 2010).

This conclusion supports the instructional role that research guides have long been seen to hold. Librarians have traditionally viewed the research guide as a means of furthering information literacy instruction. In a 1993 article promoting the development of a clearinghouse for architecture library related handouts, Brown noted that handouts support many of the common goals of library instruction, including identifying approaches toward researching topics, identifying useful library resources, and outlining the mechanics of utilizing those resources. Bradley Brazzeal (2006) analyzed a number of library guides related to forestry to determine the degree to which librarians were addressing information literacy standards and the best practices in their guides. Michael Smith (2008) suggested that descriptions could be used in guides to better meet the information

literacy needs of the students. California Polytechnic State University, San Luis Obispo, developed an Agribusiness web site specifically designed to address both curricular and information literacy competencies (Vuotto, 2004).

Other studies explore the inter-relationship between research guides and instruction sessions, suggesting that guides are most useful when they complement in-person instruction. Galvin (2005) noted that not all information literacy instruction can take place within the classroom: "Even when classroom instruction takes place, reinforcement and more active learning experiences are needed...Librarians cannot afford to overlook out-of-class opportunities to promote and support information literacy" (p. 352). When surveying high school students, O'Sullivan and Scott (2000) reported a significant increase in student satisfaction with an electronic assignment-specific pathfinder following a class demonstration regarding its use.

Fewer studies have been conducted that assess how well guides fulfill their purpose once the library instruction session has ended. One such study was completed by Sherry Engle in 2001. Engle polled students in a graduate level course with a legislative history assignment to see what mediums of library instruction they found most helpful; those students reported electronic handouts to be more helpful than their paper counterparts. In another study, librarians at George Washington University embedded a one-question survey into their guides asking users to rank their helpfulness and to offer comments (Courtois, Higgins, & Kapur, 2005). These authors were disappointed to learn that a number of respondents did not find the guides to be helpful, with some citing broken links, others looking for resources not listed, and still others

seemingly confused by the purpose of the guides.

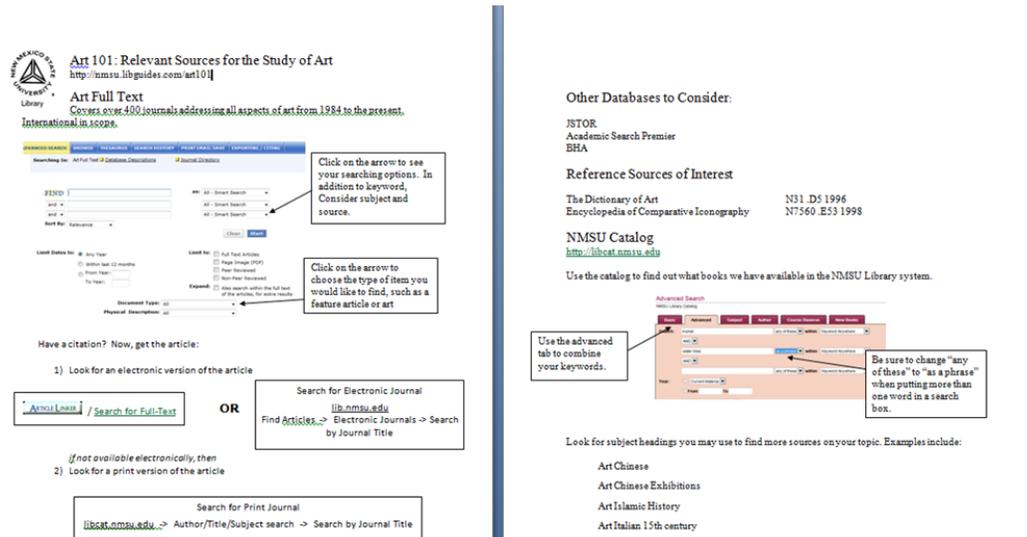
Magi (2003) reported on a study conducted at the University of Vermont that used a variety of methods to compare the use and benefits of a traditional paper pathfinder with an electronic guide that was dynamically created in response to a checklist of information needs presented by the user. The students surveyed indicated that they preferred the paper pathfinder, stating that it was easier to use. However, a comparison of the students' submitted papers showed no difference between the two versions in the students' likelihood to cite recommended business sources.

As LibGuides became popular, librarians at Princeton and Cornell Universities conducted a study to learn if students and faculty involved in courses for which LibGuides were created appreciated them as much as librarians did. The researchers found that students responded quite favorably to LibGuides, with 95% of respondents reporting an increased awareness of class resources. Faculty involved in the study also reported that student assignments improved in those classes that had LibGuides available (Horne & Adams, 2009).

METHODOLOGY

This study drew upon an established instructional relationship the author, a humanities librarian at NMSU, holds with an introductory course, Art 101: Orientation in Art. Art 101, a large survey course that enrolls approximately 100 students per semester, requires students to write a four to five page research paper. Each semester the librarian visits the class or, schedules permitting, has them come in sections to the library for a hands-on introduction to library

FIGURE 1 — ART 101 PAPER RESEARCH GUIDE

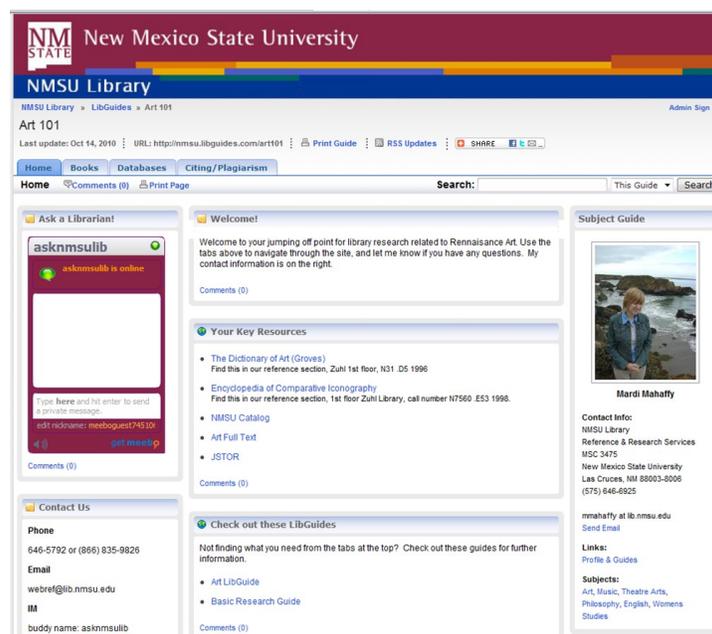


research. At that time students are given a paper research guide related to the course (see Figure 1) and are referred to an online course research guide accessible from the library website (see Figure 2).

While there is a good deal of overlap between the paper and online research

guides, each has unique content. Each guide provides pointers to key reference sources, such as the *Grove Dictionary of Art*. Each mentions the library catalog as a place to find books, gives relevant subject headings, references the *Art Full Text* database as a place to find articles, and provides contact information for the humanities librarian.

FIGURE 2 — ART 101 ONLINE RESEARCH GUIDE



One unique feature of the paper guide is that it contains screen shots illustrating how to search the library catalog and *Art Full Text*. The online guide, delivered via Springshare's LibGuides, has the added functionality of providing live links to databases and other resources, as well as a tab leading the user to citation and plagiarism information. Additionally, the online guide includes a Meebo instant messaging widget that allows users to chat with a member of NMSU's reference staff. Also of note, the web address for the online guide is listed on the paper version.

Following the due date of the Art 101 research assignment, the author visited the class and requested volunteers to take part in a focus group about the use of library research guides following library instruction. To be eligible, volunteers must have attended the original library instruction session. As an incentive to participate, students were offered a \$20.00 iTunes Gift Card and a chance to enter a drawing for a Kindle. Ten students volunteered to take part in the research, which resulted in two focus groups of five students each. Each group was asked the following series of questions designed to elicit information on how they used the guides to do their research once they left the library classroom:

- Did you refer to the paper research guide when conducting your research for Art 101? Why or why not?
- What did you find most useful about the paper research guide?
- What would you like to see on the paper research guide that isn't there?

- Did you refer to the online research guide when conducting your research for Art 101? Why or why not?
- What did you find most useful about the online research guide?
- What would you like to see on the online research guide that isn't there?
- Were you satisfied with the research you gathered for the assignment?

Both focus group discussions were taped, transcribed, and analyzed. Particular note was made of themes that were either highly seconded by other members within a focus group or repeated in both groups. Additionally, the basic access statistics provided by Springshare were analyzed for supporting data.

RESULTS

Paper Research Guide

Of the ten participants, six used the paper guide during the course of their research. Most referred to it only once at the start of their research as a refresher before getting started. Those who did not use the paper guide held onto it and could identify where it was when asked. One of the students who did not use it expressed a common sentiment: "[I liked] just knowing that I could come back to it – knowing that I had it in case I needed it."

Those students who used the guide stated a number of reasons for doing so; the most common reason was to find the URL to the online version. Several students also referred to the paper guide for a quick reminder of what the key art databases were.

One student used the paper guide to take notes during the instruction session. Another felt the listing of research tools implied a “if this doesn’t work, try this” approach to research that encouraged her not to give up if her first research attempt was unsuccessful. Yet another student expressed appreciation for the screen shots, stating that they reminded him of how to go about searching the database.

When asked what was missing from the paper guide, most students had nothing to contribute. Three students wanted more information about the citation tools provided by the databases. Another requested database annotations that summarized what could be expected from each one. A final recommendation was to include more general information such as library hours and contact information.

Online Research Guide

Statistics generated by LibGuides showed that the Art 101 online research guide pages were accessed 439 times (this includes the usage during the library class sessions) in October 2010 and 145 times in November. The research guide home page received by far the most use, with the databases page receiving the second highest number of hits (see Table 1).

The focus groups revealed that, of the ten

participants, six used the online course research guide; three did not access the online guide; and one could not remember if she had used the guide or not. Those who used the guide referred to it between two and five times. Five of those who used the online guide also referenced the paper research guide.

While not everyone used the online research guide, all of the students reported using online library resources. Those who did not make use of the online guide followed varying paths to identify and access art related resources. Two students accessed the library catalog and databases by using the federated search box available on the library home page; they stated that they viewed this as the most direct route to resources and that they were satisfied with the results. A third student stated that she did not remember the online guide for the course; instead, she started on the university student page and followed a series of hypertext links until she arrived at the library databases page. The final student went directly to the stacks to locate books she identified during the instruction session, and then followed up at the computer stations in the stacks that are dedicated to the library catalog.

Those who used the online research guide spoke of it very positively. They appreciated having a page dedicated to library resources related to art and felt the guide easily

TABLE 1 — ART 101 ONLINE RESEARCH GUIDE USAGE

Page Accessed	October	November
Books	106	22
Citing/Plagiarism	34	6
Databases	114	39
Home	185	78
Total	439	145

prompted their memory of resources addressed in class. Easy access to the art databases was by far the most popular function of the online guide. This result is supported by a study conducted at San Jose University, which found that students felt the articles and databases pages were the most helpful parts of their online subject guides (Staley, 2007). One of the NMSU students also expressed appreciation for the database annotations available via the database tab on the guide.

Other students stated that they valued the added functionality that the online research guide provided. Several expressed appreciation for the direct links to relevant resources. As one student put it, "I liked it because everything was on one page. You didn't have to go looking around. Just click on the link and it takes you right to it." Many students also liked the idea of the embedded chat feature; though despite their clear enthusiasm for this feature, none had actually made use of it. Finally, one student spoke of the ease of getting to sources without having to visit the library.

When asked what they would like to see on the online course research guide that was not there, most of the students had nothing to suggest, stating that it was helpful as it was. One suggestion, which others seconded, was to add information about citing sources. This was particularly curious because the guide included a tab dedicated to citing and plagiarism. This particular tab was not referenced during the instruction session, and the students clearly did not discover it on their own.

As a final question to determine if the guides served the students' needs, the author asked if the students were pleased with their research and resulting papers. Of the ten participants, six were quite pleased with

their papers, three were somewhat pleased, and one was somewhat disappointed, saying that she could not find good sources. Several students also mentioned that they felt more was expected of them in college than in high school, and that they were somewhat daunted by this. One student elaborated to say he was not accustomed to needing to use more than one source in a paper. Another was generally pleased, although she would have liked the option of using more resources freely available on the web; the instructor limited students to only one.

CONCLUSIONS

With the small number of subjects participating in this study, conclusions cannot be generalized to other populations. However, the trends in student responses did raise some interesting questions that call for further exploration.

Even though the librarian worked almost entirely from the course research guides in the instruction session, almost half of the students used other means for locating and accessing the catalog and art related databases. Two of the students went straight to the first search box available on the library home page -- the library's federated search. This suggests that introducing the students to research guides in an instruction session is by no means a sure fire way to encourage their later use. Students' ingrained habits of searching and browsing through web pages may override what they are taught to do in class. Librarians must integrate research guides into student's natural web use and study habits if the guides are to be fully effective.

Regardless of the degree to which the students used the research guides, they consistently expressed a desire to have them

available should they be needed. The tone of the focus group discussions suggested not only a preference for the online research guide, but an appreciation for the face to face instruction session and a desire for a second session. When the author attempted to sum this up with the suggestion that “online is better than paper, but perhaps person-to-person is better than online,” the students immediately disagreed. Different students respond to different formats of library help and want to have options in how they access it. When providing instructional materials, libraries will need to balance their limited resources with students’ need for flexibility. To do so, streamlined workflows may need to be developed in order to efficiently create guides in various formats.

One of the benefits the author recognized in the online research guide was its easy expandability, believing this was a way to provide value added material that could not be addressed in one 50-minute class session. It was telling that so many students expressed a desire for citing information and yet did not notice that it was available via the online research guide. This suggests that students are unlikely to explore a multi-faceted research guide and locate added material not addressed in class. Further exploration is needed about the best design of online guides to optimize the possibility that students will find the information they need.

While students were very appreciative of the research guides, they expressed a continued unease about research and a desire for further help. They were also reluctant to ask directly for help, using neither the chat reference feature on the online research guide, or the library contact information listed on both guides and brought to their attention during class. This was true despite the fact that they were clearly taken with the

idea of using chat, and felt that having the librarian’s name and photograph included on the online guide made her more approachable. Instead, one student suggested another class instruction session. Students are still reluctant to approach librarians for individual help.

Freshman students felt overwhelmed by the number and nature of sources available to them at the college level, and that they were expected to make use of them. According to one student, “In high school all you had there is the book. You check out the book and you get all of your stuff from that book and I felt like at the NMSU Library there’s so much more than that...and I didn’t really know how to deal with all that stuff.” Other students agreed. This sentiment is a reminder that ACRL Information Literacy Standards call for students not only to evaluate individual sources, but to synthesize concepts from a variety of sources (Association of College and Research Libraries, 2000). This raises the question if research guides can be effective vehicles for the instruction of higher level information literacy skills such as synthesizing information.

While the focus groups raised a number of questions on how to make guides more effective, they did reveal one consistent message: The students expressed a true appreciation for the librarian’s outreach to them. One student said, “I thought ‘someone is going to help me so it was, like, OK!’” Another student stated, “I think it’s cool that you take the time to do all this and help us out and all that because at college you’re sometimes like ‘they don’t care’ but I haven’t run into that yet.” While librarians must make difficult choices regarding the best use of limited time and resources, it is clear that instruction to students, in all of its guises, is valued.

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