A Statistical Approach to Assessing Research Guide Use at Central Washington University

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Abstract
Much of the existing literature on library research guides, specifically those created using the ubiquitous LibGuides platform, expresses doubt that guides of a subject or topical variety are being used by students to an extent that justifies their creation and maintenance. Guides designed to be used in the context of particular courses are held to be more worthwhile, as they tend to experience more site traffic. This wisdom is tested using data generated by LibGuides' internal Statistics tool for the Central Washington University library guides in the 2017 calendar year. The metric of asset clicks to page views is used as a rough means of measuring how much guides are used for research purposes. Course guides are scrutinized by comparing site traffic with instructional data, thus gaining an impression of how much students use those guides outside the classroom.

Introduction
For many academic librarians, the terms "research guides" or "subject guides" have become nearly synonymous with LibGuides, the Springshare product commonly used to create such materials. LibGuides is essentially a specialized Web-publishing platform. It has the virtue of being easy to use, even for individuals with very modest technical skill, though basic knowledge of HTML and Web design principles is helpful. The program is adaptable to a variety of purposes, including a library website platform, but is most typically used for the creation of library guides associated with academic subjects and specific courses. A generic subject guide would include a list of resources in categorized pages or boxes, such as databases, journals, and books from the catalog.

With LibGuides being so user-friendly, and even fun to use, it can be tempting to create guides that go beyond subjects to cover the resources available on specific research topics, perhaps in areas where librarians have scholarly interest or expertise. However, as a number of scholars have observed that subject guides are under-utilized, it is worth asking whether the creation of "topic guides" is a productive undertaking. The literature stresses that guides designed to be used in the context of specific courses tend to see more use than guides with more abstract purposes. A related question to this trend of guide usage is whether this is primarily due to lack of awareness about subject and topic guides among students, or because student research habits are such that they view such resources as superfluous, whether consciously or otherwise.

This paper focuses on usage patterns, rather than usability issues. It adds to the existing body of scholarship on LibGuides by featuring statistical analysis of not only subject and topic guide use itself, but of the use of the resources contained within such guides. It also attempts to look beyond raw numbers of page views of course guides to determine whether these resources are in fact being used with substantially greater frequency than subject or topic guides, and how much use they see outside an in-

structural context. Lastly, it suggests a pragmatic approach to creating research guides based on these analyses.

Literature Review

There is a body of scholarship on both the usability and usage of research guides, with or without a specific focus on guides made with LibGuides. With regard to usability, one point from the literature that bears noting is the importance of designing guides in such a way that they do not overwhelm their intended users with an exhaustive list of resources; rather, they should be used to introduce users to the *best*, most relevant resources (Sonsteby & DeJonghe, 2013; Baker, 2014). With regard to usage, there are a few recurring themes in the literature. One, as mentioned above, is the observed greater popularity and applicability of course guides (Baker, 2014; Erb & Erb, 2014; Gonzalez & Westbrock, 2010; Strutin, 2008). Students get more exposure to course guides than guides of other types because librarians showcase these guides when they are teaching. Foster et al. (2010) observed that there was a direct relationship between how often a librarian taught and how much his or her guides were used. A related theme is the importance of embedding guides "within an overall support framework and strategy" (Dalton & Pan, 2014, p. 519), as opposed to letting them stand by themselves in a context or location where their relevance is less obvious, and where they may be harder to discover. Guides should also be designed in such a way that they do not only showcase resources, but give students direction and advice on how best to use those resources (Hintz et al., 2010).

A number of scholars have speculated whether subject guides may be an obsolete resource in light of the power of modern searching tools and the information-seeking behavior of Millennial students (Sonsteby & DeJonghe, 2013; Ouellette, 2011). Ouellette's research found that guides ranked near the bottom of the hierarchy of information sources students prefer to use, Google being at the top, and other library resources somewhere in the middle. Student respondents involved in her research indicated that they would only use subject guides as a last resort. However, the respondents also suggested that the subject guides available through their institutions could be marketed better, implying that they might see more use if more people were aware of them.

2017 views by guide type (total 37,963)

- Subject: 7411, 20%
- Course: 19900, 52%
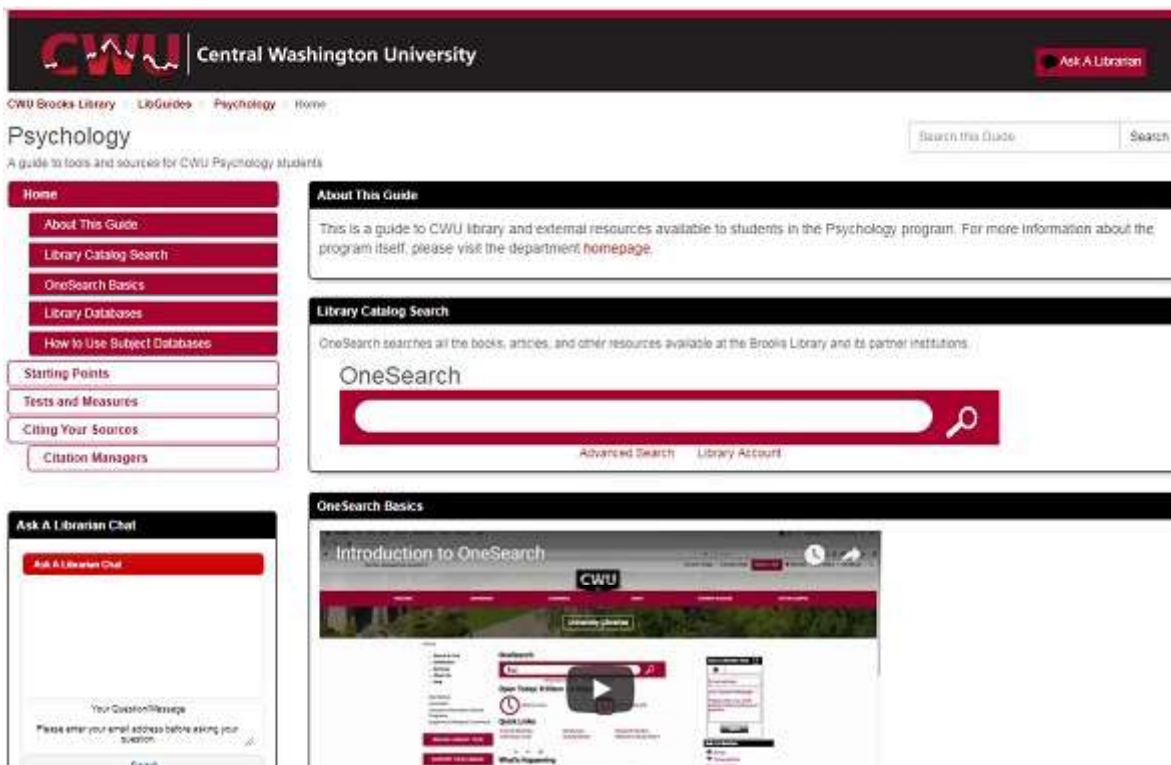- General: 5919, 16%
- Topic: 4733, 12%
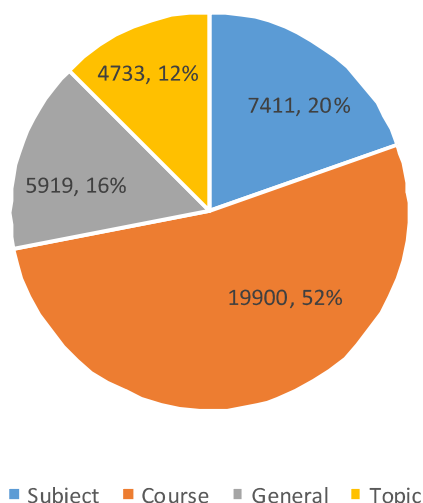
Methodology

Central Washington University, where this research took place, is a medium-sized public university in Ellensburg, WA, with a total enrollment of graduate and undergraduate students of about 11,500. The research began with a simple examination of LibGuides page views in 2017, which affirmed that course guides see more average usage than other guide types by a considerable margin. In 2017, course guides were viewed an average of 474 times during the whole year, as opposed to 174 times for non-course guides. Thus, although there were 42 course guides and 104 guides of other types, the course guides accounted for slightly more than 50 percent of the page views in 2017. Monthly Lib-Guides use peaked at just over 8000 page views in October, coinciding with library instruction in the University 101 sessions given to all first-year students; the UNIV101 guide, featured in these sessions, is the single most popular CWU research guide by the numbers.

Guide Name	Guide Type	Total Views (2017)
UNIV101 - Academic Advising Seminar	Course	5517
CS 101 - Computer Basics	Course	5379
PRIM Meeting - August 14,	Topic	2047
ENG 102 - Composition II: Reasoning and Research	Course	1589
PSY 300 - Research Methods	Course	1578
Using OneSearch	General	1040
GEOL 108 - Earth and Energy Resources	Course	956
Fake News: What It Is & How To Recognize It	Topic	945
Streaming Media Collections	General	732
ENG 101 - Composition I: Critical Reading and Responding	Course	714

CWU offers a number of Library and Information Science courses, with the option of earning either a minor or a more condensed Type B certificate in the subject. Nearly all of these courses are offered online only. The author has taught the entry-level course, LIS110: Research Fundamentals, since the

fall of 2017. Research Fundamentals is designed to familiarize students with using the library catalog, subject databases, and other common resources, and with formulating and refining research questions. In order to gather student input about guide usage patterns, online discussions about research guides were hosted in two sections of the Winter 2018 offering of the course; students were awarded extra credit points for participating. The goal was to inform the students about the guides' existence and to get feedback on what students liked or did not like about them. The focus of the research was on subject and topic guides at this time; the students were asked to review one of two sets of guides: one consisting of Psychology subject guides from CWU and two peer institutions (Washington State University and the University of Oregon), and one consisting of topic guides on Russian history and culture from Central and the same two peer institutions. These particular guides were chosen because they had close equivalents at the peer institutions, because Psychology is a popular subject at CWU, and because the CWU Russian History & Culture guide seemed a good representative of guides with a narrow, topical focus.

The results were somewhat disappointing. Only five of twenty-five students in two sections of Research Fundamentals participated in the discussion. There was little consistency among the responses, except on one point: all five students wrote that they would likely use the guides for research purposes if they knew where to find them. It is worth asking whether they actually would do so, though.

In an attempt to answer this question using less subjective means, the author turned to the usage statistics generated for the guides by LibGuides itself. The Statistics feature of LibGuides allows an administrator to track how much a guide or guides get used on a daily or monthly basis over the course of a customizable period of time. As this feature also allows one to track views of subsidiary pages within the guides, as well as clicks on certain links and resources contained within them, it offers some possibilities for assessing not only *how much* the guides get used, but *how* and in what patterns. The analyzed guide data was from the 2017 calendar year.

Asset clicks by guide type

258, 5%

866, 15%

1170, 21%

3281, 59%

■ Subject ■ Course ■ General ■ Topic
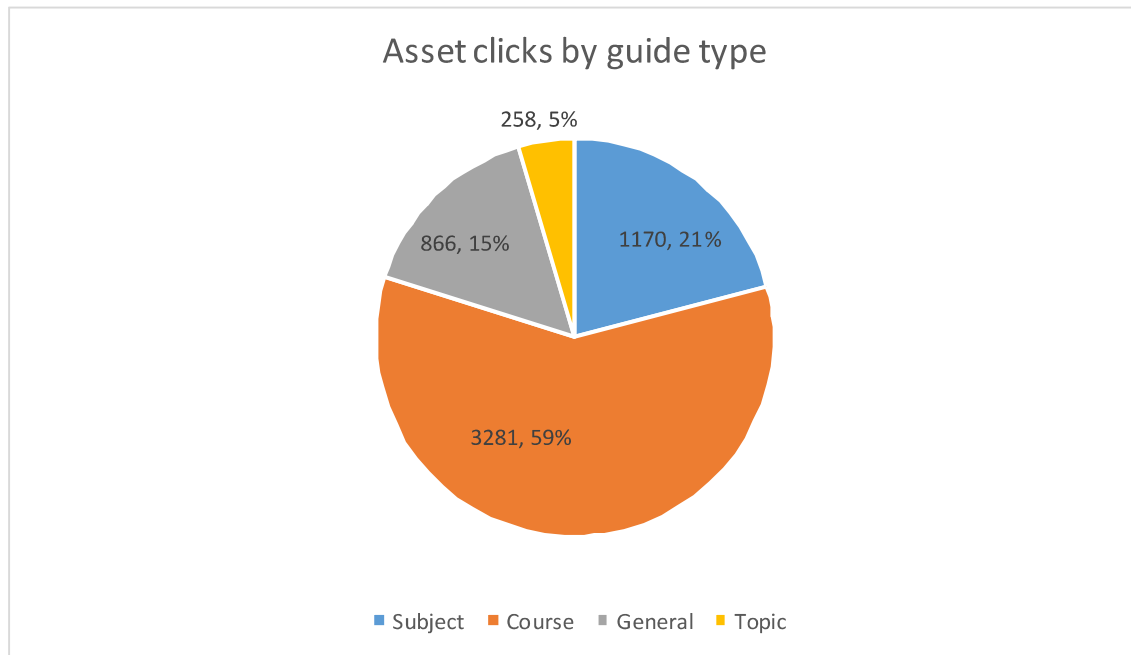
The first metric the author used to assess the guides was the ratio of clicks to views. Clicks refer to the number of times guide assets are clicked on. The assets are links that are recognized and stored by LibGuides; these may be library databases, links to external resources, books from the library catalog (identified by ISBN), or other items. Many assets appear in multiple guides. As was observed by Staley (2007), databases are by far the most popular assets; by contrast, no book from the catalog asset was clicked on at or above 10 times in 2017. To determine the number of asset clicks per guide, the author looked at the data for each individual guide, a painstaking process. The results of the clicks to views comparison were expressed as a percentage, a relatively high percentage being indicative of a high rate of asset use by guide visitors. In the case of nearly all the guides that had a clicks to views rate of 20 percent or higher, the overwhelming majority of the clicks were on library databases. The guides that fell into this group were mostly categorized as Subject or General guides, which was encouraging in the case of the subject guides, as they are often more oriented toward supporting generic research than guides of other types.

Clicks to views, avg. pct. by guide type

(Bar chart showing "Clicks to views" with four bars:)
- Subject: ~11.6
- Course: ~11.3
- General: ~10.7
- Topic: ~7.7

Legend: ■ Subject ■ Course ■ General ■ Topic
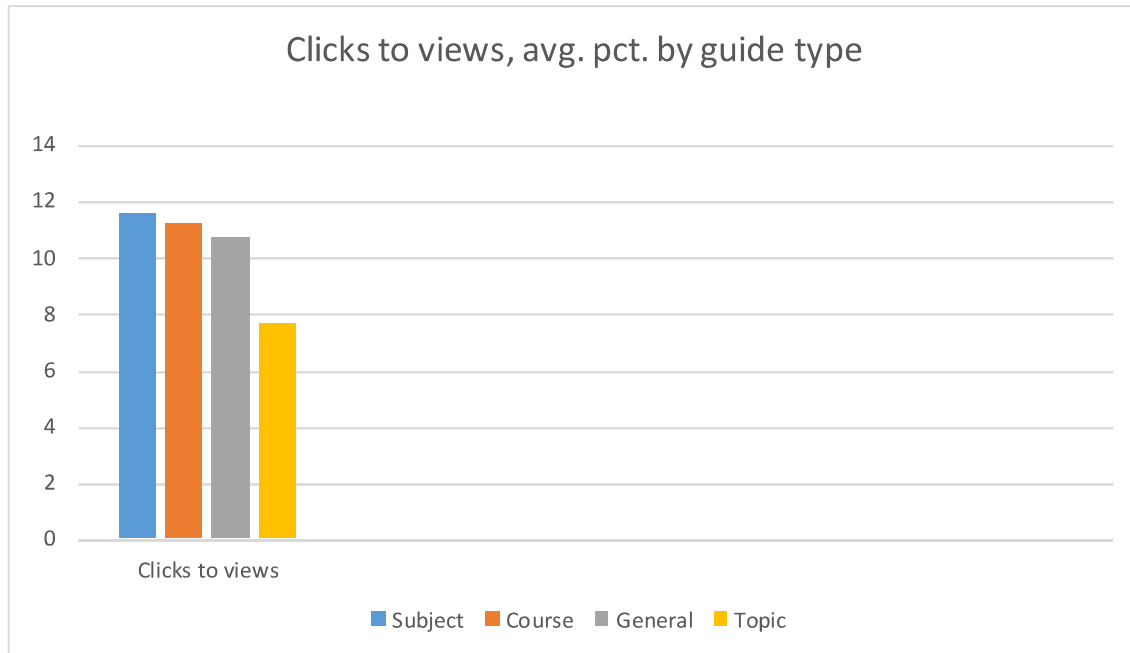
However interesting the numbers generated by this approach, it has a flaw as a means of measuring how "valuable" or "useful" a guide may be. Some guides have few if any "assets" per se. LibGuides does not recognize links entered using the Rich Text/HTML tool as assets; thus, the guide for Computer Science, for example, which had 124 page views in 2017, has a misleading clicks to views figure of zero percent. The heavily used UNIV101 guide has a clicks to views ratio of only 0.73 percent, for similar reasons. Thus, in this type of analysis, guides that utilize links or database entities rather than hyperlinks embedded in Rich Text/HTML may indicate higher usage simply because they are trackable via LibGuides software. A future analysis of the guides using an external tool, such as Google Analytics, could sidestep this limitation.

It is also unfair to assess course guides by this method because they are often used in instructional settings, and therefore have value that arguably should be quantified by other means. As the author also wanted to examine whether course guides saw appreciable use outside the classroom, he developed a different set of metrics for this guide type. In the case of the course guides, it proved fruitful to compare the LibGuides data with institutional data on classes taught by the CWU librarians, including dates of instruction and number of students taught. A total of 3,319 students attended library instructional sessions for which there was a guide; those guides were viewed 18,026 times, of which 6,973 were homepage views. After trying a couple of different approaches, the author decided it would be best to compare the dates of instruction with how much the corresponding course guide was viewed on the same date(s). This analysis showed that of the guides whose corresponding courses included one or more classes taught by a librarian in 2017 (excluding UNIV101, which had 66 such classes, and was considered exceptional among the course guides for this reason), an average of 68.66 percent of the views took place on days without library instruction. This suggests that students do indeed see value in the course guides.

Again, these numbers are interesting, and encouraging from the author's point of view, but come with caveats. Three guides whose corresponding courses included library instruction in 2017 experienced no views on the days of that instruction, suggesting that the librarian who taught the class chose not to use the guide for instruction purposes, or perhaps only referred to it in passing. Noteworthy among the remaining results are those for Computer Science 101, the second-most popular guide by total page views. Only 1.58 percent of its views took place on days with corresponding library instruction, suggesting heavy use outside the classroom. This is partly explained by the fact that this guide is designed to support the completion of a particular assignment, one having to do with market research, and showcases the library databases needed to complete the assignment. Baker (2014) similarly points out the advantages of guides geared toward completing specific assignments.

Working with LibGuides data from the fall of 2010 at Eastern Michigan University, Pittsley and Memmott (2012) noted a significant difference in use between homepages and all secondary pages. They suggested this trend may be explained by students overlooking the tab navigation menu. Another possible explanation may be that some students look no further than the homepage of certain guides because they are not interested enough to delve deeper, or perhaps because all the information they need is on the homepage. The author's analysis of what percentage of page views were of homepages alone showed great variation among the CWU guides in this regard; on average, homepage views comprised 53 percent of the views per guide. In the case of guides whose secondary pages saw comparatively little use, this was sometimes explained by the presence of important links or resources on the homepage, as with two of the guides with the highest clicks to views ratios, Career Research and Open Access Media Resources. Which page lists library databases may also affect how much traffic a guide's secondary pages experience compared with the homepage.

Conclusions
A few conclusions may be drawn from these results. As far as the subject guides go, while they may not see quite as much use as the CWU librarians would like, the clicks to views figures suggest that at least some of the existing use complements student research. Those figures also suggest that subject guides may be best viewed as a means of showcasing library databases and other closely related relevant resources, these being the top assets. Creating the narrower topic guides, however, may be a less worthwhile use of a librarian's time; with certain exceptions, their use is low, and the non-database assets they include, especially books from the catalog, are often ignored completely. Two possible explanations for the unpopularity of books in the context of LibGuides are that students generally prefer articles to books, or that they prefer to search for books on their own if they need them. Especially with regard to topic guides, librarians may fall into the trap of designing something that they themselves would value as a resource had it been created by someone else, but which may not be based on an accurate impression of modern student research habits.

By the measurement of clicks to views, course guides do not see substantially more use for research purposes than subject guides. However, the fact that they are often viewed outside of library instruction sessions suggests both that they make an impression on students and, in at least some cases, are taken seriously as resources needed to complete a class assignment. The author's tentative conclusion is that creating and maintaining course guides remains a worthwhile use of a librarian's time, though

more research is needed to determine whether the non-classroom use these guides experience is evenly distributed among all the students in the courses for which they are designed, or if they are in fact used extensively by a minority of those students.

To cycle back to the question asked earlier in this paper, the best answer may be that students would use the guides more if librarians were to demonstrate their value more often, or more effectively. Course guides attract more attention mainly because librarians do just this every time they use them in an instructional context, and most especially when they are designed to help students with a specific assignment, offering readily identifiable tools or resources for doing so. Subject guides could be brought up in an instructional context, too; mid-level Psychology students, for example, may benefit from knowing that there is both a guide for their course and one for the subject in general that they can refer to later in their studies. Another context in which both subject and topic guides could probably be mentioned more often is in that of reference interactions (Morris & Del Bosque, 2010). In the case of online interactions, whether by chat or email, the librarian could suggest the guide in the form of a link, supported by a brief summary of the resources contained in the guide. In person, the librarian could point out the guide and take the student on a brief tour of its contents, perhaps at the end of the reference interview, suggesting it as a collection-point for resources just demonstrated in case the student needs to refer to them again. Further research could explore whether these tactics succeed in noticeably boosting guide usage.

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