



Contents lists available at ScienceDirect

The Journal of Academic Librarianship

journal homepage: www.elsevier.com/locate/jacalib

Content strategy in LibGuides: An exploratory study

Judith Logan^{a,*}, Michelle Spence^b^a John P. Roberts Library, University of Toronto, 130 St. George St. Toronto, Ontario M5S 1A5, Canada^b Engineering & Computer Science Library, University of Toronto, Sandford Fleming Building, Room 2402 10 King's College Road, Toronto, Ontario M5S 1A5, Canada

ARTICLE INFO

Keywords:

LibGuides
Content strategy
Web content
Academic libraries

ABSTRACT

Since its inception in 2007, Springshare's LibGuides has become a popular content management system (CMS) with academic libraries. The challenges of managing LibGuides content through a cohesive content strategy have not been well documented. The researchers conducted a survey of academic libraries that were using the LibGuides platform in Fall 2019 to determine how institutions are managing content challenges. Of 120 respondents, only 53% of the respondents indicated that their institutions had content guidelines that LibGuides authors were expected to follow. The top three most observed elements of these content guidelines were page design (80%), content reuse policies (77%), naming conventions (73%), and navigation (3%). 15% of respondents' institutions did not review guides once they were published. Of those that reviewed guides post-publication, authors (84%) most frequently reviewed their own guides. These findings imply that LibGuides are largely cared for on an honour system. Guidelines tend towards quantifiable elements and omit more abstract concepts.

Introduction

LibGuides is a library-specific content management system (CMS) designed to help library staff members publish information online without in-depth knowledge of HTML or CSS. Produced by Springshare since the late 2000's, the company markets LibGuides and its other products as created by librarians for librarians with an impressive 6100 libraries and institutions subscribing (Springshare, 2020). Among academic libraries, LibGuides is especially popular. There are over 2300 LibGuides instances at academic institutions (Springshare, 2019) with some institutions having more than one self-contained implementation of the LibGuides system—known as an “instance”—populated by individual LibGuides often called simply “guides”. The prevalence of LibGuides will be unsurprising to anyone who has interacted with the platform. LibGuides allows library staff members to share their expertise easily, quickly, and with a professional-looking final product. Many institutions use it to produce web content that helps users research specific topics and subjects, while others use it as their library website. There are two versions of LibGuides: a basic version, LibGuides, and an upgraded version, LibGuides CMS, with more options for content management and oversight.

Popularity and ease-of-use can have unintended consequences, however. “Let's make a LibGuide” has become such a common refrain in

academic libraries that some make light of it as an ill-considered and solution to a wide range of library problems that does not address their root cause. McDonald and Burkhardt (2019) explain that once libraries began adopting CMSs like LibGuides they found themselves in a distributed content environment which “generally results in a rapidly increasing *quantity* of content without necessarily guaranteeing consistent *quality*” (p. 12). A distributed authorship model coupled with a layperson-friendly CMS conflates librarian-authored content with library authored content (McDonald & Burkhardt, 2019). Although guides are created by subject matter or domain experts (the librarian-authors), the content represents the organization (the library-author) and should follow industry and institutional standards, review practices and consistency with other institutional content (McDonald & Burkhardt, 2019). Institutions with LibGuides and a librarian-author culture sometimes find themselves with a large number of guides that quickly become rife with outdated information, broken links, and inconsistencies after only a few years. These problems can negatively affect the content's credibility and usefulness.

While creating individual guides in LibGuides can be quick and easy, creating and maintaining a suite of useful, unique, and current guides is not as simple. Springshare has a robust support site that recommends and documents best practices for creating guides. There is some guidance about maintaining an institution's instance, although it does focus

* Corresponding author.

E-mail addresses: judith.logan@utoronto.ca (J. Logan), michelle.spence@utoronto.ca (M. Spence).

<https://doi.org/10.1016/j.acalib.2020.102282>

Received 9 September 2020; Received in revised form 30 October 2020; Accepted 1 November 2020

Available online 16 November 2020

0099-1333/© 2020 Elsevier Inc. All rights reserved.

on technical aspects of system maintenance (Springshare, n.d.). Springshare provided suggested content management strategies to subscribing institutions when it introduced LibGuides CMS in 2015 including suggestions for cleaning up content so underused, outdated, and neglected content is addressed in a timely manner (Springshare, 2015).

Guidelines and recommendations for managing online content and LibGuides exist, but academic libraries' implementation of these practices has not been well studied. This research project attempts to address that gap. An exploratory survey of academic libraries' LibGuides content strategy practices was conducted to answer two primary research questions: (a) how do academic libraries govern their LibGuides? and (b) what requirements, guidelines or protocols have institutions put in place for the creation, publication, and maintenance of their LibGuides?

Literature review

What is content strategy?

Kristina Halvorson is a content strategy thought leader. She describes content strategy as a plan “for the creation, publication and governance of useful, usable content” (2011, p. 23). In their 2012 book *Content strategy for the web*, Halvorson and Rach posit that at the core of the strategy is a simple, aspirational statement meant to motivate and inspire the website's team. They provide an example of a core strategy statement that reads much like one that would be appropriate for a LibGuide about legal research: “Curate an entertaining, online reference guide that helps stressed out law students become successful practicing attorneys” (p. 101). Once a statement has been defined, Halvorson and Rach recommend creating a plan that includes guidelines in six areas:

- **Audience:** Who specifically will be reading the content? If there is more than one audience, they should be ranked.
- **Messaging:** What ideas should be prioritized in the content? These are the key takeaways that authors hope the website's users will remember after leaving the site.
- **Topics:** What information is most important to the audience and therefore should be included in the content?
- **Purpose:** Is the content meant to persuade, inform, validate, instruct, or entertain readers?
- **Voice and tone:** How is the content's writing style appropriate for both the website's brand and the audience's values?
- **Sources:** Where does the content come from? It will be either original, co-created with another entity, generated by users, or aggregated, curated or licensed from other sources.

Structural elements include which channel (i.e., web or email), platform (i.e., LibGuides CMS) and format (i.e., text or video) the content appears on; navigation and information architecture; page design; links; and metadata. These structural elements are distinct from the content itself. Content can be defined as “anything that communicates information about a product or service” (Datig, 2018, p. 63) and can take the form of text, images, and audio-visuals (Redish, 2007). Content is the information itself whereas structural elements are the way that the information is presented and organized.

Workflow and governance are symbiotic concepts for Halvorson and Rach (2012). Workflow describes how content is created, maintained, and evaluated, while governance ensures the long-term care of a website's content. Founded on the core strategy, governance also defines

- Who has the authority to make decisions about the content?
- The processes and procedures that underpin content creation,
- The plans and priorities of the content in the near future,
- The content's mandatory policies that should be followed by everyone involved with it, and

- Any non-mandatory guidelines that help the content team follow best practices.

In brief, governance defines the workflow of content and designates the parties involved in the workflow at each stage of the content's lifecycle.

Web librarians have described the urgency of applying content strategies in academic libraries. Rebecca Blakiston was one of the first. In 2013, she described the process she used to design and implement a content strategy at the University of Arizona Libraries. In the introduction to that case study, she explains that while usability work is increasing common, its focus on web design and navigation contribute to a situation where content is neglected: “Users visit our websites for content, but often what they ultimately find is poorly written, outdated, and duplicative” (p. 176). In subsequent works, she describes the benefits and process of employing a content strategist (Blakiston & Mayden, 2015) and details web writing practices (Blakiston, 2017). Before the University of Michigan hired a web content strategist, library staff members believed that there was “no harm in letting the website develop however individual units and librarians thought best” (p. 25) which contributed to a bloated and confusing website. They found that designing a content governance model that allowed authors freedom within a system of checks and balances addressed the organizational culture's desire for autonomy while still improving the user's experience (Demskey & Chapman, 2015). Datig (2018) concurs with Blakiston's assessment that content strategy is less frequently employed as a user experience tool and extends her definition of content to include social media. Case studies of web redesign projects in academic libraries also increasingly mention content strategy (Dominguez et al., 2015; Leg et al., 2014). A recently published review paper by McDonald and Burkhardt (2019) advocates for content strategy in library web spaces regardless of CMS. They urge libraries to see their web content as collectively authored so that it can be governed strategically and collaboratively, regardless of the channel or CMS platform it appears on.

Content challenges in LibGuides

While LibGuides is a content management system, much of the published research about LibGuides has been focused on individual guides as opposed to the instance as a whole. Usability and look-and-feel of individual guides have been popular topics of study (e.g., Almeida & Tidal, 2017; Baker, 2014; Bowen et al., 2018; Conerton & Goldenstein, 2017; Lee & Lowe, 2018; Pittsley & Memmott, 2012; Quintel, 2016; Thorngate & Hoden, 2017). Pickens (2017) and Little (2010) both offer suggestions for reducing the cognitive load—or working memory load—of LibGuides, including navigation, design, text, linking, and content recommendations, but they are also exemplars of Blakiston's critique of web redesign projects. Springshare has recommendations about formatting the look-and-feel of LibGuides (e.g., Springshare, n.d.) and writing for the web (e.g., Springshare, 2016).

Many academic libraries have created and shared their own content standards for their LibGuides (Fritch & Pitts, 2016; Gonzalez & Westbrook, 2010). Some of these standards came as a response to LibGuides CMS's implementation in 2015. For example, Kansas State University Libraries used the migration as the impetus to deal with the proliferation of guides that had broken links, did not follow standard web writing guidelines, and were not accessible (Fritch & Pitts, 2016). The literature also includes case studies detailing how some libraries came to rethink their guides, including examining trends in technology. Griffin and Taylor (2018) analysed traffic on their LibGuides site using Google Analytics and found that mobile users accounted for 11% of the hits on their guides, indicating that mobile users should be considered when designing guides or guide templates. They also found that users who viewed subject guides spent more time on them than course guides (almost 4 min, versus an average of 39 s). Griffin and Taylor inferred that this meant that students who were looking at course guides were

only looking for specific pieces of information, and that guides needed to be tailored to the course so students can find what they need quickly. Subject guides, on the other hand, could include more information on the research process, however they still need to be streamlined to avoid information overload. While this study and others like it contribute to the body of literature about LibGuides, it focuses on the design and use of individual guides without explicitly taking into consideration the system as a whole.

While there are many studies examining the design and use of individual LibGuides, there are fewer works about designing and maintaining LibGuides as a holistic content management system. These include [Bangani and Tshetsha \(2018\)](#), who investigated co-ownership of LibGuides at public universities in South Africa to gauge collaboration. They found that there was significant content overlap of guides across universities, resulting in duplicated effort on the authors' part and increased wayfinding difficulties and cognitive load on the users' part, contravening the guides' intention. [Mortimore and Minihan \(2018\)](#) described their strategy of checking links to e-resources including those in LibGuides to maintain their e-resources. They also created a shared LibGuide with book and link assets, like LibGuides' A-Z database assets, to simplify maintenance with quarterly checks for broken links. [Brown et al. \(2018\)](#) described implementing a robust system governing the creation, publishing, and maintenance of guides within the University of Nebraska Medical Center's McGoogan Library of Medicine. Similar to [Fritch and Pitts' \(2016\)](#) findings at Kansas State University Libraries, the migration from LibGuides 1 to LibGuides CMS spurred [Brown et al. \(2018\)](#) to develop this review system. However, it also allowed them to address more longstanding issues such as an overabundant number of guides, lack of uniformity in guide style and layout, content that inappropriate for the platform, and high variability in the depth and breadth of the content on the guides.

Materials and methods

The researchers obtained approval for this study from the University of Toronto's Research Ethics Board before proceeding.

Instrument development

The researchers determined that an online questionnaire would be the most feasible way to obtain information about geographically distributed academic libraries. An appropriate instrument did not already exist, so the researchers created one in Survey Monkey drawing on the characteristics of LibGuides' system, [Halvorson and Rach \(2012\)](#), and their own experiences managing LibGuides. The final instrument is available online <http://hdl.handle.net/1807/99607> and in [Appendix A](#). [Appendix B](#) contains a CHERRIES-compliant reporting checklist that provides more detail.

Sampling

At the time the study was conducted, 2380 academic institutions were listed in the LibGuides community ([Springshare, 2019](#)). Springshare Support confirmed that for legal reasons they could not provide a list of all LibGuides administrators so that they could be invited to participate systematically (C. Williams, personal communication, June 5, 2019). Sampling was therefore done by convenience, a non-random sampling style which limits the resulting data's generalizability ([Battaglia, 2008](#)).

Recruitment

The researchers recruited participants through an invitation posted on the Springshare Lounge and on listservs relevant to web or academic librarianship. They requested that respondents work at a post-secondary institution and have some level of responsibility for LibGuides including

an administrator-level account in the system. Any use of a LibGuides system was welcome; the study did not distinguish between institutions that used LibGuides to create subject or course guides and those that used it as their library website.

Analysis

The researchers downloaded the collected data from Survey Monkey excluding partial responses. Data cleaning and descriptive statistical analyses were performed in Excel. Inferential statistical analyses were conducted in SPSS.

Results

Respondent characteristics

123 respondents completed the questionnaire. A further 47 respondents started but did not complete the questionnaire. The completion rate was, therefore, 72% with an average time to completion of 10 min and 3 s. After deduplicating by institution and resolving incomplete responses, there were 120 usable responses, representing 5% of the eligible population ($N = 2380$).

Most respondents reported working at publicly funded institutions (71%) that granted doctorates (53%). 41% reported fewer than ten thousand full time equivalent (FTE) students, 33% between ten and 25 thousand FTE, and 26% over 25 thousand FTE. Respondent characteristics are summarized in [Table 1](#).

Most respondents reported that they were in the United States (69%) and Canada (19%). A Pearson's chi square test determined that the geographic distribution was significantly different from the sample frame, $\chi^2(8) = 63.6, p \leq 0.000$ indicating that the respondents are disproportionately North American. 60% of respondents used LibGuides CMS ($n = 72$), which was not a significantly different proportion from the sample frame according to a Pearson's chi square test: $\chi^2(1) = 0.065, p = 0.798$.

On average, respondents' LibGuides system had 69 accounts. With a maximum of 993 and a minimum of 1; the standard deviation was 111. The mean number of published guides reported was 267 with a standard deviation of 304, indicating an elevated level of variability. As the data were not normally distributed, a Mann Whitney *U* test indicated that the number of guides published by the survey respondents ($Mdn = 176.5$) was greater than of the sampling frame ($Mdn = 111$), $U = 106,086.5, p \leq 0.000$. This means that the respondents were significantly different from the eligible population in this regard. Institutions with larger

Table 1
Characteristics of participating institutions.

Characteristics	<i>n</i>	%
Funding model		
Public	85	71%
Private, non-profit	34	28%
Private, for profit	1	1%
Institution type		
Doctorate-granting university	63	53%
Master's college or university	18	15%
Baccalaureate college	13	11%
Associate's college	11	9%
Baccalaureate/Associate's college	7	6%
Special focus institution	4	3%
Other (please specify)	4	3%
Full time equivalent students		
0-999	3	3%
1000-2999	19	16%
3000-9999	27	23%
10,000-24,999	40	33%
25,000-49,999	24	20%
Over 50,000	7	6%

Note. $N = 120$.

number of guides may have self-selected to participate in the study.

Main findings

Just over half of the respondents reported that they had content guidelines that their LibGuides authors were expected to adhere to (53%). Where present, content guidelines most often described guide topics (72%), target audiences (69%), and purpose (69%), as shown in Table 2.

Respondents also indicated their content guidelines specified structural elements; these are outlined in Table 3. Four elements—page design (80%), content reuse policies (77%), naming conventions (73%), and navigation and information architecture (73%)—appeared more often than the factors described by Halvorson and Rach (2012) as the substance of content guidelines (Table 2).

When asked “Does your institution have any guidelines or protocols in place to review guides before they are published?,” only 23% (n = 27) of the 120 respondents answered that that was the case. Only 4% (n = 5) reported that they used the built-in publishing workflow in LibGuides CMS. Reasons for not using the workflow included wanting authors to have unfettered publishing and updating capabilities, the size of the institution not requiring a complicated workflow, and the staff time required to vet content.

Maintenance

Once published, 27% reported that all guides are reviewed systematically at their institution (n = 32). Most respondents reported an un-systematic approach, where only some published guides are reviewed as needed (n = 70, 58%). 15% did not review published guides at all (n = 18).

Of the respondents that reviewed published guides, currency/time-liness (85%) and accuracy (78%) were the most common considerations. Table 4 details these results.

As Table 5 shows, authors reviewed their own guides in 84% of cases. The LibGuides administrators (63%) were the next most common reviewers.

74% (n = 89) of the institutions reported that their guides do not usually undergo user testing, with 24% (n = 29) indicating that some of their guides do and 2% (n = 2) stating that all guides are tested.

Discussion

This study explored LibGuides administrators’ reports of their library’s content strategy practices within the LibGuides content management system. Quantitative findings are discussed forthwith supplemented by selected qualitative responses for context and connections to the published literature.

RQ-A: How do academic libraries govern their LibGuides?

At many institutions, content-authors independently govern their own LibGuides content. Almost half of respondents’ institutions (47%) did not have content guidelines they were expected to follow. The average reported LibGuides system had 267 published guides and 69

Table 2
Responses to “Which of the following is included in the content guidelines?”.

Content guideline substance	n	%
Topics	46	72%
Target audiences	44	69%
Purpose	44	69%
Voice and tone	35	55%
Messaging	30	47%
Source	26	41%

Note. N = 64. Respondents could select multiple variables.

Table 3
Responses to “Which structural elements do the guidelines cover?”.

Structural elements of content guidelines	n	%
Page design	51	80%
Reusing content within the LibGuides instance	49	77%
Naming conventions	47	73%
Navigation and information architecture	47	73%
Guide types	45	70%
Subject associations	44	69%
How to use assets	41	64%
Author profile boxes	38	59%
Tags	25	39%
Metadata	17	27%
Group associations	14	22%
Help pages	10	16%
Other	7	11%

Note. N = 64. Respondents could select multiple variables.

Table 4
Responses to “What are the guides reviewed for?”.

Post-publication considerations	n	%
Currency	87	85%
Accuracy	80	78%
Usage	55	54%
Consistency	55	54%
Relevance	50	49%
Other	15	15%

Note. N = 102. Respondents could select multiple variables.

Table 5
Responses to “Who reviews each guide?”.

Variable	n	%
The guide’s author	86	84%
The LibGuides administrator(s)	64	63%
A panel of peer reviewers	8	8%
Other	17	17%

Note. N = 102. Respondents could select multiple variables.

LibGuides accounts. A distributed content authorship model such as these data describe can make it difficult to ensure that the LibGuides system is presenting an “integrated representation of the organization” (McDonald & Burkhardt, 2019, p. 16). Without a user-centred document that explicitly describes what content should be included in LibGuides, institutions are likely to have as many different visions as they have authors, potentially contributing to some of the content problems described by Brown et al. (2018) and Bangani and Tshetsha (2018). As one survey respondent noted, “because there is no active management and restrictions, folks like to publish in LibGuides. However, it makes the information architecture difficult and LibGuides becomes a storage system rather than something users can find content easily.” Furthermore, content-authors are likely to have many competing responsibilities that may mean they are not able to be as deliberate and strategic about their guides as they might like. Blakiston (2013) found that many of the content editors she interviewed were concerned about their “lack of time to maintain their content or give it the attention it deserved” (p. 183). A cohesive content strategy could help busy content-authors create useful and usable content that fits with their colleagues’ efforts.

When content guidelines were present, they most often focused on structural elements like page design (80%), naming conventions (73%), and guide type assignment (70%). Of the six considerations that comprise a content strategy’s substance in Halvorson and Rach’s (2012) estimation, respondents more frequently included the concrete considerations such as topics (72%) and target audience (69%) than the more abstract considerations such as voice and tone (55%) and messaging

(47%). These findings consistent with [Blakiston's \(2013\)](#) observation that "All too often, the focus [of web governance] is on design and higher-level navigation and labelling; on the users' discovery process rather than the actual content they must understand, use, or interpret at the end" (p. 176). Page design, naming conventions, and other concrete aspects of guides are easy to define and follow making them "low hanging fruit" that can easily be added to a list of policies or guidelines.

It is unclear if content guidelines focused more on concrete than abstract topics on purpose and, if so, why. The simplest explanation is that abstract topics are more nuanced making them more difficult and time-consuming to describe and teach. Qualitative comments supported this explanation: "The issue is time—in addition to managing all Springshare products I am an instruction librarian, liaison, and I lead our library's OER efforts." Another contributing factor could be guide authors' reluctance to oversight. One respondent noted that it was difficult to convince authors to follow even the tangible aspects of the content strategy: "our approach to LibGuides has been shaped by our relatively flat hierarchy and a strong university culture of academic freedom - so imposing restrictions on publication would be a hard battle." This suggests that some guide authors may see their content as librarian-authored rather than library-authored content, in [McDonald and Burkhardt's \(2019\)](#) phraseology. Similarly, [Halvorson and Rach \(2012\)](#) admit that content strategy is "especially tough when you're surrounded by subject matter experts with passionate ownership of their content" (p. 141). More research is needed to explore the interpersonal and organizational factors that shape content guidelines in a LibGuides context.

RQ-B: What requirements, guidelines or protocols have institutions put in place for the creation, publication, and maintenance of their LibGuides?

At most participating institutions, there are few systematic procedures that oversee the lifecycle of a LibGuide. Only 23% of responding institutions review all guides before they are published, either manually or using LibGuides' built-in publication workflow which is available to the 60% of respondents who have LibGuides CMS. Therefore, 77% of respondents do not check new guides to determine if they are following content guidelines, if those exist at their institution, or are otherwise appropriate for publication. These findings imply that some institutions are using an honour system wherein content guidelines are present, but it is the content-author's responsibility to interpret and follow them. One respondent admitted, "It's problematic, for sure - we have best practices for content and usability, audience and tone, etc. but librarians are professionals and do what they want." This supports [Demsky and Chapman's \(2015\)](#) position that libraries view content production and management as a personal effort and do not have an editorial culture where collective efforts are valued. Lack of procedures does not indicate a lack of knowledge of or interest in content management, though, as demonstrated by these comments. Time could also be a limiting factor. [Demsky and Chapman \(2015\)](#) also note that a content clean-up effort that engaged content authors and stakeholders "required about sixty hours of project management" to unpublish or remove 42% of webpages and reassign ownership for another 20% (p. 26). Not all institutions are able to dedicate these staffing resources.

Once live, guides are usually reviewed "as needed" (58%) by the author (84%) and often by the LibGuides administrator(s) too (63%). The survey instrument did not collect a list of conditions that trigger a guide review. If authors are the most common parties performing the review, they could also be the ones determining if it is needed, further cementing LibGuides management as an honour system vulnerable to the author's workload or individual vision for their content. However, LibGuides administrators are also involved in most guide reviews suggesting that there is some element of collaboration or cooperation. [Brown et al. \(2018\)](#) describe a committee structure and process for reviewing existing guides that some institutions may find useful.

When reviewing a guide, the reviewers are primarily assessing its currency (85%) and accuracy (78%). As with the content guidelines,

post-publication reviews tended to focus on easily quantifiable and fixable aspects of the guides. This could take the form of checking for broken links to online resources such as [Mortimore and Minihan \(2018\)](#) describe. Despite a substantial percentage of published literature relating to LibGuides involving user research (e.g., [Almeida & Tidal, 2017](#); [Baker, 2014](#); [Bowen et al., 2018](#); [Conerton & Goldenstein, 2017](#); [Lee & Lowe, 2018](#); [Pittsley & Memmott, 2012](#); [Quintel, 2016](#); [Thorngate & Hoden, 2017](#)), few of the respondents consulted users; 74% said that their guides were not usually tested with users. Again, there may be practical reasons for this. Usability research and user testing is time consuming and requires knowledge of specific research methodologies that content-authors might not be familiar or comfortable with.

Limitations

This study bears some methodological limitations which reduce the generalizability of its findings.

The study used a convenience sample, so not all LibGuides systems meeting the study's inclusion criteria were invited to participate and those that did participate were self-selected. Of the three characteristics that could be statistically compared to the sample frame—country, number of published guides, and version of LibGuides software—two were significantly different indicating that the respondents are not representative of all academic institutions with LibGuides.

The researchers drew from their own experiences managing LibGuides to formulate some of the questions in the survey instrument. These may not have been applicable to all LibGuides instances and may omit aspects that the researchers are unaware of. Though the instrument was pilot tested, it was not formally validated. Its reliability, validity, responsiveness, and interpretability are therefore unknown.

The findings, therefore, should not be treated as a comprehensive description of LibGuides content strategy practices, only an exploratory one.

Further research

More research is needed to gain an accurate picture of content strategy practices in academic libraries' LibGuides. The researchers hope to perform further qualitative analysis on the open text comments received through the questionnaire at hand. Accessibility was not covered by this study and would be a valuable area to investigate. Qualitative projects could explore the content strategy experiences of LibGuides authors and administrators, especially in relation to organizational culture and perceptions of academic freedom. Research evaluating the effectiveness of content strategy practices would be particularly useful, though perhaps difficult methodologically.

Conclusions

This study aimed to better understand current content strategy practices in academic libraries. Findings indicate that half of responding institutions had content guidelines which focused on easily quantifiable aspects of guides such as their design, title, and type. After publication, guides were reviewed ad hoc and most often for currency and accuracy. Authors largely govern their own content throughout its lifecycle. This implies that where LibGuides are concerned, most academic libraries continue to operate under a distributed content authorship model. Though content guidelines are common and evoke content strategy, without external governance or workflow oversight there is little recourse if a content-author misapplies the guidelines. Lack of governance does not indicate lack of knowledge or interest in governance, but competing priorities and time pressures may impede good intentions.

Springshare has branded their product so successfully that it can be easy to lose sight of the fact that a LibGuide is a website within a larger system, not its own species of web-based object. When a LibGuides system bears institutional branding and web domains, users experience

it as part of the web space and may not even know that they are interacting with a different CMS. If institutions are proceeding from a user-first standpoint, LibGuides should be considered part of the library's and institution's overall web presence and held to the same standards regardless of who contributed the content. Having a unified content strategy can ensure that all content on the library's web spaces are useful and usable as McDonald and Burkhardt (2019) advocate. Academic libraries may therefore benefit from engaging with content-authors to develop an organizationally appropriate governance structure for their LibGuides content.

Funding

This research did not receive any specific grant from funding

Appendix A. Survey instrument

Page 1: Informed consent

We are researchers at the University of Toronto Libraries who have been administering LibGuides for almost ten years. The goal of this research project is an environmental scan of content strategies that are being used in academic libraries' LibGuides instances. We are using Halvorson's (2011) definition of content strategy: "Content strategy plans for the creation, publication and governance of useful, usable content".

We are seeking participants with the following characteristics to complete an online questionnaire:

- Works at an academic library in a post-secondary institution
- Some level of responsibility over LibGuides at their institution, either solely or as part of a team
- Has an administrator account in LibGuides
- Able to respond knowledgeably about how LibGuides are governed at their institution
- One respondent per institution

Your responses will be kept in a secure location and not shared with anyone outside the research team. Results of the study will be aggregated and shared at conferences or in a published research paper. Though we will ask you to identify your institution, this information will only be used to resolve multiple submissions from a single institution and to better categorize the type of institution. It will not be shared in the research outputs. You can also choose to leave your email address if you wish to participate in a follow-up interview.

Your participation is completely voluntary. You can choose to abandon the study at any time. Any incomplete responses will be deleted. If you choose to withdraw after you have completed the questionnaire, please contact the research team. We will be able to identify your submission by the approximate time of submission and your institution. We estimate that the questionnaire will take you no more than 15 min to complete.

While you will not benefit personally from participating in this study, the results of the research may help you administer LibGuides at your institution. There are no anticipated risks to participating.

If you have questions about the study or your rights as a participant, please do not hesitate to contact judith.logan@utoronto.ca or michelle.spence@utoronto.ca. You can also contact the University of Toronto's Human Research Ethics Program at ethics.review@utoronto.ca.

1. Do you agree to participate in this study under the conditions outlined above?

- a. Yes
- b. No

Page 2: About your institution

2. Where is your institution located?

- a. <Select from a list of countries>
- b. Other (please specify)

3. What is the name of your institution?

4. Is your institution funded privately or publicly (i.e. by a governmental body)? American institutions are listed in the Carnegie Classification's lookup tool.

- a. Private, non-profit
- b. Private, for profit
- c. Public

5. How many full time equivalent students attend your institution?

- a. 0–999

agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

The researchers have no competing interests to declare, neither financial, nor personal.

Acknowledgements

Thank you to Emily Chapman for helping us compile the list of academic institutions with LibGuides, and Sarah Fedko for piloting the survey instrument.

- b. 1000-2999
 - c. 3000-9999
 - d. 10,000–24,999
 - e. 25,000-49,999
 - f. Over 50,000
6. How many full time equivalent library staff work at your institution? We define library staff as including librarians, paraprofessionals, and part time staff, but not student and casual staff.
- a. 0–9
 - b. 10–24
 - c. 25–49
 - d. 50–99
 - e. 100–299
 - f. Over 300
7. How would you classify your institution? We are using the Carnegie Classification's definitions.
- a. Doctorate-granting university
 - b. Master's college or university
 - c. Baccalaureate college
 - d. Baccalaureate/Associate's college
 - e. Associate's college
 - f. Special focus institution
 - g. Tribal college
 - h. Other (please specify)
8. If there is more than one library unit, branch, or location at your institution, to what extent is there a clear chain of command that has a single person or governing body at the top of the hierarchy?
- a. We have a fully centralized organizational structure.
 - b. We have some decentralized units, branches, or libraries.
 - c. We have a fully decentralized organizational structure.
 - d. This does not apply to my institution because we have only one library unit, branch, or location.
 - e. I'm not sure.

Page 3: About your LibGuides instance

- 9. How many published LibGuides are in your system? Please enter a numeral.
 - 10. How many LibGuides accounts are in your system? Please enter a numeral.
 - 11. How are your guides discoverable? Check all that apply.
- a. Through our library's discovery layer
 - b. On my library's website
 - c. Through a LibGuides homepage linked from somewhere on our website
 - d. In my institution's Learning Management System (i.e. Desire2Learn, BlackBoard)
 - e. Other (please specify)

12. Does your institution use LibGuides or LibGuides CMS?

- a. LibGuides
- b. LibGuides CMS

Page 4: About your LibGuides instance continued

13. Are you using Groups in your LibGuides CMS instance?
- a. Yes
 - b. No
14. If yes, how many Groups have published guides? Please enter a numeral.
15. Do you use LibGuides' publishing workflow feature?
- a. Yes
 - b. No

Page 5: Publishing workflow

16. Please describe how your institution has incorporated the publishing workflow into the guide creation/editing process.

Page 6: No publishing workflow

17. Why did your institution choose not to use the publishing workflow?

Page 7: Guide creation

18. Do LibGuides at your institution undergo user testing? We are using Krug's (2006) definition of user testing: "one user at a time is shown something (whether it's a Web site, a prototype of a site, or some sketches of individual pages) and asked to either (a) figure out what it is, or (b) try to use it to do a typical task." (p. 133)

- a. Yes, all guides are tested with users systematically
- b. Yes, but only some guides as needed.
- c. Not usually, no.

19. Does your institution have content guidelines for LibGuides? These guidelines contain preferred content attributes used to determine if existing content or proposed future content is appropriate for LibGuides (Halvorson p. 145).

- a. Yes
- b. No

Page 8: Your content guidelines

20. Which of the following is included in the content guidelines? Check all that apply.

- a. Target audiences: who specifically are the guides for?
- b. Messaging: what key takeaways do you want readers to remember?
- c. Topics: what can guides be about?
- d. Purpose: what is the point of the guide? To persuade? To inform? To validate? To instruct? To entertain?
- e. Voice and tone: what is the guide's writing style?
- f. Source: where is the content coming from?

21. Which structural elements do the guidelines cover? Check all that apply.

- a. Naming conventions
- b. Navigation and information architecture
- c. How to use assets
- d. Subject associations
- e. Guide types
- f. Metadata
- g. Tags
- h. Page design
- i. Group associations
- j. Author profile boxes
- k. Help pages
- l. Reusing content within the LibGuides instance
- m. Other (please specify)

22. How do you ensure that LibGuides authors follow these?

Page 9: Prepublication reviews

23. Does your institution have any guidelines or protocols in place to review guides before they are published?

- a. Yes
- b. No

Page 10: Prepublication reviews continued

24. Please describe your institution's prepublication guidelines or protocols.

Page 11: Governance

25. Are published LibGuides reviewed periodically?

- a. Yes, all guides are reviewed systematically
- b. Yes, but only some guides, as needed
- c. No

Page 12: Guide reviews

26. Who reviews each guide? Check all that apply.

- a. The guide's author
- b. The LibGuides administrator(s)
- c. A panel of peer reviewers
- d. Other (please specify)

27. What are the guides reviewed for? Check all that apply.

- a. Accuracy
- b. Consistency
- c. Currency/Timeliness
- d. Relevance to audience
- e. Usage statistics
- f. Other (please specify)

Page 13: Content strategist

28. Is there someone responsible for online content strategy at your institution?

- a. Yes
- b. No

Page 14: Content strategist continued

29. Is LibGuides included in their purview?

- a. Yes
- b. No

Page 15: LibGuides responsibility

30. Are there individual(s) who oversee or manage LibGuides at your institution?

- a. Yes, both content and software administration
- b. Yes, but only content
- c. Yes, but only administering the software
- d. No, authors are responsible for their own guides

Page 16: LibGuides responsibility description

31. What is/are their job title(s)? Please separate by semicolons if multiple.

32. On average, how many hours per week in total do these individuals devote to administering LibGuides? Please enter a numeral.

Page 17: Final thoughts

33. Is there anything else you'd like to tell us about LibGuides and content strategy at your institution?

Page 18: Follow up

34. May we contact you for a follow up interview?

- a. Yes
- b. No

35. If yes, please leave your email address

Appendix B. Checklist for Reporting Results of Internet E-Surveys (CHERRIES)

Checklist item	Response
Design	
Describe survey design	The survey was intending to reach a convenience sample of the 2380 academic institutions that have LibGuides.
IRB approval and informed consent process	
IRB approval	The researchers received approval from [institution]'s Research Ethics Board before proceeding.
Informed consent	Participants were apprised of the following and were required to agree to the terms before beginning the questionnaire: <ul style="list-style-type: none"> • Purpose of the study • The researchers' affiliation and aims • The estimated length of the survey (15 min) • Data storage and retention
Data protection	Only the researchers had access to the survey responses while they were stored in SurveyMonkey. Once the survey closed, the data were downloaded onto password protected devices.
Development and pre-testing	
Development and testing	The researchers used the characteristics of LibGuides' system, Halvorson and Rach (2012), and their own experiences managing LibGuides to develop the survey. They pilot tested it with local colleagues and made adjustments based on feedback before releasing it.
Recruitment process and description of the sample having access to the questionnaire	
Open survey versus closed survey	Open
Contact mode	Web only
Advertising the survey	The survey invitation was circulated via listservs and posted on the Springshare lounge.
Survey administration	
Web/email	Web survey
Context	The survey was hosted on SurveyMonkey.
Mandatory/voluntary	Voluntary
Incentives	No incentives
Time/date	The survey was open from October 16, 2019 to December 2, 2019.
Randomization of items or questionnaires	Items were not randomized.
Adaptive questioning	The survey included conditional logic so that some questions were only shown to participants to whom they were relevant.
Number of items	There were 35 total items, but every participant did not see every item due to the conditional logic. No more than 7 items per page were presented.
Number of screens (pages)	The survey included 18 pages, but every participant did not see every page due to the conditional logic.
Completeness check	All questions were optional except the first: consent to participate.
Review step	Participants could use the back button to review their responses before completing.
Response rates	
Unique site visitor	We asked participants to state their institution. Three duplicates were identified in this way.
View rate	0.1%
Participation rate	100%
Completion rate	72%
Preventing multiple entries from the same individual	
Cookies used	SurveyMonkey uses a 90-day cookie to measure survey completion rates.
IP check	No
Log file analysis	None
Registration	N/A
Analysis	
Handling of incomplete questionnaires	Incomplete questionnaires were discarded before analysis.
Questionnaires submitted with an atypical timestamp	None
Statistical correction	None

References

- Almeida, N., & Tidal, J. (2017). Mixed methods not mixed messages: Improving LibGuides with student usability data. *Evidence Based Library and Information Practice*, 12(4), 62. <https://doi.org/10.18438/B8CD4T>
- Baker, R. L. (2014). Designing LibGuides as instructional tools for critical thinking and effective online learning. *Journal of Library & Information Services in Distance Learning*, 8(3-4), 107-117. <https://doi.org/10.1080/1533290X.2014.944423>
- Bangani, S., & Tshetsha, V. (2018). Collaboration on LibGuides in public universities in South Africa. *Global Knowledge, Memory and Communication*, 67(4/5), 259-275. <https://doi.org/10.1108/GKMC-11-2017-0099>
- Battaglia, M. (2008). Convenience sampling. In P. Lavrakas (Ed.), *Encyclopedia of survey research methods* (p. 149). Sage. <https://doi.org/10.4135/9781412963947.n105>
- Blakiston, R. (2013). Developing a content strategy for an academic library website. *Journal of Electronic Resources Librarianship*, 25(3), 175-191. <https://doi.org/10.1080/1941126X.2013.813295>
- Blakiston, R. (2017). *Writing effectively in print and on the web: A practical guide for librarians*. Rowman & Littlefield Publishers.
- Blakiston, R., & Mayden, S. (2015). How we hired a content strategist (and why you should too). *Journal of Web Librarianship*, 9(4), 193-215. <https://doi.org/10.1080/19322909.2015.1105730>
- Bowen, A., Ellis, J., & Chaparro, B. (2018). Long nav or short nav?: Student responses to two different navigational interface designs in LibGuides version 2. *The Journal of Academic Librarianship*, 44(3), 391-403. <https://doi.org/10.1016/j.acalib.2018.03.002>
- Brown, H., Drummond, D., & Minter, C. I. J. (2018). Establishing a review process to evaluate research guides. *Medical Reference Services Quarterly*, 37(4), 367-374. <https://doi.org/10.1080/02763869.2018.1514901>
- Conerton, K., & Goldenstein, C. (2017). Making LibGuides work: Student interviews and usability tests. *Internet Reference Services Quarterly*, 22(1), 43-54. <https://doi.org/10.1080/10875301.2017.1290002>
- Datig, I. (2018). Revitalizing library websites and social media with content strategy: Tools and recommendations. *Journal of Electronic Resources Librarianship*, 30(2), 63-69. <https://doi.org/10.1080/1941126X.2018.1465511>
- Demsky, L., & Chapman, S. (2015). Taming the kudzu: An academic library's experience with web content strategy. In B. L. Eden (Ed.), *Cutting-edge research in developing the library of the future: New paths for building future services* (pp. 23-40). Rowman & Littlefield Publishers.
- Dominguez, G., Hammill, S. J., & Brillat, A. I. (2015). Toward a usable academic library web site: A case study of tried and tested usability practices. *Journal of Web Librarianship*, 9(2-3), 99-120. <https://doi.org/10.1080/19322909.2015.1076710>
- Fritch, M., & Pitts, J. E. (2016). Adding bite to the bark: Using LibGuides2 migration as impetus to introduce strong content standards. *Journal of Electronic Resources Librarianship*, 28(3), 159-171. <https://doi.org/10.1080/1941126X.2016.1200926>
- Gonzalez, A. C., & Westbrook, T. (2010). Reaching out with LibGuides: Establishing a working set of best practices. *Journal of Library Administration*, 50(5-6), 638-656. <https://doi.org/10.1080/01930826.2010.488941>
- Griffin, M., & Taylor, T. I. (2018). Employing analytics to guide a data-driven review of LibGuides. *Journal of Web Librarianship*, 12(3), 147-159. <https://doi.org/10.1080/19322909.2018.1487191>

- Halvorson, K. (2011). Understanding the discipline of web content strategy. *Bulletin of the American Society for Information Science and Technology*, 37(2), 23–25. <https://doi.org/10.1002/bult.2011.1720370208>
- Halvorson, K., & Rach, M. (2012). *Content strategy for the web* (2nd ed.). New Riders.
- Krug, S. (2006). *Don't make me think* (2nd ed.). New Riders.
- Lee, Y. Y., & Lowe, M. S. (2018). Building positive learning experiences through pedagogical research guide design. *Journal of Web Librarianship*, 12(4), 205–231. <https://doi.org/10.1080/19322909.2018.1499453>
- Leg, M., Pérez Cervera, M., & Rebaque-Rivas, P. (2014). Customization, transparency and proximity: A user-centered content strategy applied to the design of a virtual library website. In C. Stephanidis (Ed.), *Vol. 434. HCI international 2014—Posters' extended abstracts* (pp. 191–195). Springer International Publishing. https://doi.org/10.1007/978-3-319-07857-1_34.
- Little, J. J. (2010). Cognitive load theory and library research guides. *Internet Reference Services Quarterly*, 15(1), 53–63. <https://doi.org/10.1080/10875300903530199>
- McDonald, C., & Burkhardt, H. (2019). Library-authored web content and the need for content strategy. *Information Technology and Libraries*, 38(3), 8–21. <https://doi.org/10.6017/ital.v38i3.11015>
- Mortimore, J. M., & Minihan, J. M. (2018). Essential audits for proactive electronic resources troubleshooting and support. *Library Hi Tech News*, 35(1), 6–10. <https://doi.org/10.1108/LHTN-11-2017-0085>
- Pickens, K. E. (2017). Applying cognitive load theory principles to library instructional guidance. *Journal of Library & Information Services in Distance Learning*, 11(1–2), 50–58. <https://doi.org/10.1080/1533290X.2016.1226576>
- Pittsley, K. A., & Memmott, S. (2012). Improving independent student navigation of complex educational web sites: An analysis of two navigation design changes in LibGuides. *Information Technology and Libraries*, 31(3), 52–64.
- Quintel, D. F. (2016). LibGuides and usability: What our users want. *Computers in Libraries*, 36(1), 4–8.
- Redish, J. (2007). *Letting go of the words: Writing web content that works* (1st ed.). Elsevier/Morgan Kaufmann.
- Springshare. (2015). Migration checklist for admins: Cleaning up LibGuides v1. https://support.springshare.com/ld.php?content_id=70149.
- Springshare. (2016). Top 5 (of all time) LibGuides Tips & Tricks: Digitally Remastered. Retrieved October 30, 2020 from <https://buzz.springshare.com/springynews/news-30/tips#better>.
- Springshare. (n.d.). Look & feel: Customize page layout templates for guides. Retrieved October 30, 2020, from <https://ask.springshare.com/libguides/faq/1077>.
- Springshare. (n.d.). Tidying up: Tips for managing your guides, assets, databases, and images. Retrieved October 20, 2020, from <https://ask.springshare.com/sp-ringboards/faq/1844>.
- Springshare. (2019). LibGuides community. https://community.libguides.com/?action=0&inst_type=1.
- Springshare. (2020). About Springshare. <https://www.springshare.com/about.html>.
- Thorngate, S., & Hoden, A. (2017). Exploratory usability testing of user interface options in LibGuides 2. *College & Research Libraries*, 78(6). <https://doi.org/10.5860/crl.78.6.844>