



Survey of Digital Humanities Online Guides in Canadian Academic Research Libraries

Marcela Y. Isuster and David R. Greene

abstract: The authors surveyed the websites of Canadian academic research libraries to better understand the current landscape of digital humanities and digital scholarship research guides and their content. While only a third of the surveyed library websites provided guides of this nature, an analysis of their content showed a variety of resources and information that could assist librarians undertaking similar projects.

Introduction

As research methodologies associated with the digital humanities become increasingly popular, academic research libraries continue to grapple with how best to support researchers and students at all levels of experience who wish to work in the field. Research guides have begun to appear on academic library websites that address the basic needs of digital humanists and “digital scholars,” a term inclusive of scholars outside humanities disciplines. These guides differ from the traditional conception of online research guides in that they tend to point to online tools rather than to information resources, such as books and databases. This trend may represent an evolution in what is possible with online guides and is worth investigating as a means of supporting this burgeoning area of research.

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ties tools and methods. First, as the tools and resources available for undertaking digital humanities-style projects continue to grow and evolve, it becomes more important than ever for researchers, students, and librarians to keep abreast of their options. Online

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guides could serve as hubs that connect users to tools, open data sets, corpora (collections of texts that can be analyzed digitally), and noteworthy digital projects in a convenient and easily discoverable location. Secondly, they have the potential to serve as a gateway to new digital methodologies for uninitiated students and researchers, or for those who might be interested but are intimidated by what they perceive as the complex world of digital scholarship and digital humanities.

Lastly, the presence of dedicated guides and associated librarians helps to communicate a willingness and ability to engage with and advise on digital humanities projects.

The authors set out to survey the current landscape of digital humanities and digital scholarship guides on Canadian research library websites to understand what is currently provided and to identify possibilities for future directions. This work will aid librarians in developing online guides to support students and faculty in the digital humanities.

Literature Review

Defining Digital Humanities and Digital Scholarship

An ever-present problem in discussing digital humanities is pinning down a precise definition of the term. What is now referred to as the *digital humanities* (or DH, as it is often called informally) originated in what was once called *humanities computing* and has existed in various forms since the early days of computing.¹ Though the specifics may

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vary and continue to evolve, a simplified synthesis of commonly cited definitions is that the digital humanities represent a novel and interdisciplinary set of methodological approaches that involve the application of digital technology to humanistic research and inquiry.² A small sampling of common examples includes the use of text encoding, mixed media, topic modeling, geographic information systems (GIS), and digital exhibitions in

the exploration of humanistic questions or ideas. Emphasis is often also placed on the collaborative nature of digital humanities projects, which occur largely online and can cross traditional disciplinary and institutional lines. *The Digital Humanities Manifesto 2.0* provides a useful take on the term:



Digital Humanities is not a unified field but an array of convergent practices that explore a universe in which: a) print is no longer the exclusive or the normative medium in which knowledge is produced and/or disseminated; instead, print finds itself absorbed into new, multimedia configurations; and b) digital tools, techniques, and media have altered the production and dissemination of knowledge in the arts, human and social sciences.³

However, the idea that DH is a set of practices rather than a field of study may be changing. According to Lauren Klein and Matthew Gold, “The digital humanities, as a field, has arrived.”⁴ Some attempt to fit DH under a single umbrella, which inevitably forces a consideration of “who’s in and who’s out” as a digital scholar.⁵ However, Klein and Gold use art historian Rosalind Krauss’s notion of an “expanded field” to place the emphasis more on the relationships between key factors that link the diverse forms of digital humanities scholarship. This approach helps to bridge the divide, for example, between the builders of DH tools and their deployers, who use different skill sets to do different kinds of work that are nonetheless connected by their novel, digital approach to scholarship and their open ethos, which celebrates collaborative participation and strives to make scholarly research and publications freely available.

A related term worth exploring is the concept of *digital scholarship*, which shares many fundamental themes with the digital humanities, but focuses more on scholarly processes and has a scope that reaches beyond the humanities. Pamela Price Mitchem and Dea Miller Rice write that “digital scholarship is a broader concept, encompassing all disciplines, not just the humanities.”⁶ Furthermore, products have emerged such as Gale’s Digital Scholar Lab, which integrates a suite of open source digital humanities tools into its primary sources collection and uses the two terms interchangeably in its documentation.⁷ Such products presumably seek to be more inclusive of researchers outside traditional humanities disciplines, such as those in the social sciences or business, who might also find a use for the tools in their research.

It is worth further exploring the concept of digital scholarship here, as the literature in this area examines how the digital context is transformative to scholarship generally. The intersection of digital technology and the disciplines of the humanities may be worth considering when creating online guides to support DH initiatives. In *The Digital Scholar*, Martin Weher argues that new digital tools are “necessary, but not sufficient, for any substantial change in scholarly practice” that they might help to bring about.⁸ His contention is that for these technologies to be truly transformative, three factors must converge: digital content, networks, and openness. When high-quality scholarly content can be shared digitally via online networks without legal restrictions, we enter an era of scholarship—digital scholarship—that differs substantially from the traditional one. An amplification of the scope of available academic content and the ability to instantly publish and share one’s content online challenges the fundamental assumptions about the nature of scholarly practice. Along this line, Robin Goodfellow and Mary Lea define *digital scholarship* as “the relatively recent invention of cross-disciplinary groups of individual scholars . . . who have begun to use technology to disseminate their own work outside the formal academic publishing system.”⁹ Prefiguring these two is Gideon Burton, whose concept of the “open scholar” is “someone who makes their intellectual projects and processes digitally visible and who invites and encourages ongoing criticism of their work and secondary uses of any or all parts of it—at any stage of its development.”¹⁰ The



common thread is that a digital context makes scholarship more fundamentally open and collaborative for those who fully embrace it. Missing from these definitions, however, are the possibilities afforded by digital technology to allow for entirely new forms of

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scholarship, such as interactive digital books, mixed-media scholarship, and crowdsourced research projects. These new possibilities are important to librarians supporting digital scholarship because exploring them often requires the use of specialized tools or technical knowledge, which may prompt scholars to seek guidance.

Certain authors suggest an ideological bent to digital humanities and digital scholarship generally, particularly in their relation to the transformation of the scholarly publishing landscape and the open access movement. The *Digital Humanities Manifesto 2.0* states that there is a “utopian core” to DH and that its roots can be traced back to the counterculture of the 1960s; in other words, that it is associated with the political left.¹¹ According to Weller, being a “digital scholar” goes beyond simply applying new technologies to existing scholarly practices but also must include “embracing the open values, ideology and potential of technologies born of peer-to-peer networking and wiki ways of working in order to benefit both the academy and society.”¹² In “Are Digital Humanists Utopian?” Brian Greenspan draws attention to the opposing views that the digital humanities represent a utopian project predicated on inclusivity, openness, and cooperation, versus the idea that such scholarship regularly employs the language and attitudes of Silicon Valley technology companies and so reflects a neoliberal desire for a reduction of government interference in markets and industries. Ultimately, he advocates for the former as the direction digital humanists should take.¹³ Whatever one’s opinion, the digital humanities and digital scholarship are clearly not neutral endeavors but rather are shaped by the ideologies and critical context in which they exist. It could be argued that a more complete digital humanities or digital scholarship guide would include suggested readings for contextualizing purposes rather than simply listing tools.

Academic Research Libraries and Online Research Guides

Since research libraries and scholarship are inextricably linked, it follows that any digital form of scholarship, including the digital humanities, would in some way connect to the missions of the libraries that support and benefit from it. Scholars have, in fact, as-

librarians often play supporting or collaborative roles in DH projects, and many are digital humanists themselves.

serted that digital humanists and librarians make natural partners; librarians often play supporting or collaborative roles in DH projects, and many are digital humanists themselves.¹⁴

Less clear is how exactly research libraries should support digital scholarship initiatives at their institutions, especially in the most general sense. Jennifer Vinopal and Monica McCormick point out that scholars increasingly wish to use



digital tools in their research, predicting that “as the nature of scholarship changes, research libraries’ practices will also adapt in order to partner most effectively with scholars.”¹⁵ In their view, libraries will need to engage with digital scholarship at almost every level. They emphasize the need for scalability and sustainability in implementing approaches to better serve digital scholars. While this is an interesting approach, small and even medium-sized institutions may lack the resources to fully implement such a service model.

At a smaller scale, librarians will want to meet students and scholars where they are with digital scholarship using more modest means, regardless of the strategy at the institutional level. Online research guides represent a promising and simple means of providing basic support to students and researchers who need help orienting themselves in the complex world of digital scholarship and digital humanities. The authors have found no studies to date that directly address the use of online research guides as a means of supporting DH or digital scholarship initiatives; it is their intention that this article begin to address that gap. There is, however, a substantial literature on the design of online guides for various other purposes that can help inform the development of digital scholarship guides.

Online research guides represent a promising and simple means of providing basic support to students and researchers who need help orienting themselves in the complex world of digital scholarship and digital humanities.

To understand what makes digital scholarship guides different from many guides found on library websites today, it will be useful to briefly touch on the origin of online research guides. Luigina Vilenko traces their lineage back to the paper “pathfinders” that they ultimately replaced. According to Vilenko, the *pathfinder* term was first coined by Marie Canfield at the Massachusetts Institute of Technology (MIT) in 1972, when she used it to describe “checklist[s] of references” to sources that could be considered fundamental to information discovery in a given discipline.¹⁶ This description was elaborated upon in the following year, when Charles Stevens, Marie Canfield, and Jeffrey Gardner asserted that these pathfinders are best considered as tools for users who must orient themselves at the beginning of a search process.¹⁷

Having evolved from such traditional pathfinders, many of today’s online research guides continue to focus on this sort of disciplinary orientation; in fact, the data suggest that virtually all subject librarians are expected to maintain online subject research guides in one form or another.¹⁸ However, simple lists of resources may not be sufficient when contextualizing information or when further explanation is required to make sense of them, which is often the case with complicated digital scholarship tools. Barbara Lewis and Melanie Griffin, writing specifically about online guides to special collections, assert that the provision of “meaningful access” should be of primary concern in their design. Lewis and Griffin recommend using interactive Web 2.0 elements, including blogs, social media, and other user-generated content, as well as links to contextualizing information as means of providing such access.¹⁹ While guides to digital scholarship and those



to special collections have considerations unique to each, they ideally share an aim of reaching wider audiences with material that can seem daunting to the uninitiated; these suggestions are therefore worth considering.

The literature has also explored alternative uses of online guides, many of which map nicely onto digital scholarship uses. For instance, many articles advocate the use of online research guides for information literacy instruction.²⁰ Rachel Ann Erb and Brian Erb point out that while the use of LibGuides for electronic resources troubleshooting has potential, few libraries appear to use this approach.²¹ That said, the possibility for online guides to help users address technical problems is noted here because of the technical nature of digital scholarship projects. Outreach is another established function of online research guides, with distance learning being an important consideration.²² Supporting the distributed and network-reliant nature of digital scholarship requires outreach strategies to help connect scholars across disciplinary and institutional boundaries.

Ying Zhang, Shu Liu, and Emilee Mathews propose 11 roles librarians might play in supporting digital humanities work.²³ Many of these roles can be directly supported by online research guides, including content provider, curator, educator, and advocate; however, use of research guides for these purposes is not specifically mentioned. A common theme in articles addressing the need to build capacity for collaboration between libraries and digital scholarship practitioners is that greater outreach and transparency are necessary.²⁴ These articles tend to emphasize workshops and events and seldom mention online research guides or other supporting materials as a means of improving outreach and raising awareness of services and resources in this area.

Alex Poole and Deborah Garwood assert that the work of information professionals in this context remains largely invisible and that it must be made visible to demonstrate the value they can add to digital projects.²⁵

Online research guides would be a natural place to showcase librarian involvement in digital projects.

that scholars may harbor with respect to librarians' understanding of digital scholarship projects.

Online research guides would be a natural place to showcase librarian involvement in digital projects. They present an opportunity to demonstrate librarian expertise in this area as well as to signal a willingness and ability to engage with digital scholars. They could also mitigate any assumed knowledge gap

Methodology

While there are over 80 universities in Canada, the authors focused on institutions with established research libraries. Therefore, the study was limited to the 29 university members of the Canadian Association of Research Libraries (CARL). To be a member of CARL, academic libraries must:

- Have collections and services whose scope is broad enough to add to the Canadian distributed national research collection.
- Be in an institution committed to graduate study and research. It must have established doctoral programs in the arts, social sciences, and sciences.



- Be in an institution whose annual revenue from sponsored research is equal to or greater than 15 percent of the institution's general operating budget.
- Be in an institution with a clear and long-standing commitment to and support of the library.²⁶

All data were collected between March and April 2019. Library websites were analyzed to determine the presence of digital humanities or digital scholarship research guides. In the context of this article, *digital scholarship* is defined as academic work that it is only made possible or is greatly facilitated by using digital tools and methods. Because this study concentrates on how institutions use research guides to support digital scholarship and digital humanities, the authors only considered guides where this was the focus. For this reason, subject guides (for example, in English or history) that included or mentioned digital scholarship or digital humanities resources were excluded from this analysis. In addition to lacking digital scholarship or digital humanities as the focus, the resources are not easily discoverable by the entire institution when listed only in subject-specific guides. The authors also included only guides present in the university's research guides section. If content of this nature appeared in a different section, it was noted but not considered a research guide.

The authors browsed the research guides section of each website looking for those featuring digital humanities or digital scholarship. While the terms are not necessarily synonyms, they often describe similar resources and services, such as at Brock University in St. Catharines, McGill University in Montreal, and the University of Alberta in Edmonton. Furthermore, although not in Canada, the University of Washington in Seattle states that "digital scholarship is often composed of works that are born digital, multimedia, database technology-based, analysis of other born digital material, digital text and images, digital music or art, and data sets,"²⁷ which corresponds with many of the definitions noted in the literature review.

The authors also looked for guides focusing on specific digital humanities methodologies, such as text analysis and data visualization, or on specific tools. In addition to browsing, the authors also ran searches in both English and French in each site's guide section for such material (CARL universities operate in one or both languages). Once the general digital humanities or digital scholarship guides were identified, the authors manually reviewed each guide and used a spreadsheet to analyze guide content, including which tools and other resources were listed, as well as to note the presence or absence of instruction. Content was analyzed using six categories:

1. Corpora/data: resources that aid researchers with finding or creating corpora or data.
2. Tools: websites or programs that can be used by researchers to analyze their corpora or data; also includes directories of tools.
3. Reading materials: links to articles, books, journals, blogs, article databases, and other relevant publications that discuss digital humanities or digital scholarship.
4. Training: links to online or in-person training opportunities.
5. Networking: links to the websites of relevant professional associations or communities of practice.
6. Projects: links to existing digital humanities or digital scholarship projects from both inside and outside the institution.



Resources and tools relevant only to the specific institution in question were also excluded as these would not be applicable to other institutions. Tools and resources listed in general digital humanities or digital scholarship guides were analyzed manually or using Voyant, a text analysis tool, to identify those most heavily used. For the purposes of determining its presence on guides, the authors defined *instruction* as clearly identifiable content that offered guidance or explanations about the field and its methodologies, or that explained how or why a tool should be used. Lists and resource descriptions were not considered instruction.

The authors also looked for the presence of digital scholarship or digital humanities centers at the 29 institutions to determine whether there was a correlation between the presence of online research guides and the existence of a center. Where there was a center, its website was reviewed to better understand the content and how it differed from that of a typical research guide. The authors also noted whether there was a dedicated digital scholarship or digital humanities librarian at each institution.

Results

While some guides are extremely detailed, others provide only a handful of links to library databases.

Almost a third (9 of 29) of the university libraries analyzed have dedicated research guides for digital scholarship or digital humanities. However, not all the guides are

similar in scope. While some guides are extremely detailed, others provide only a handful of links to library databases. Of those institutions that lacked a general digital scholarship or digital humanities guide, 16 had guides on specific methodologies such as GIS and data visualization or on related topics such as research data management. One institution (the University of Guelph) lacked a general digital

humanities or digital scholarship guide but instead had multiple extremely detailed guides on how to use different digital humanities or digital scholarship tools and methodologies, such as Voyant, text sentiment analysis, and others.

There was no correlation between the institution having a digital humanities or digital scholarship center and having a dedicated research guide. In fact, the opposite was true. Of the 10 institutions that have library-run or library-affiliated centers, only one had a general research guide for digital scholarship or digital humanities. In some cases, the websites for these centers provided some of the information that one would expect to find on a research guide (such as tools or links to resources), but often, the centers' web pages focused on workshops and consultations. At the time of the study, the authors knew of two institutions with a guide that had centers under construction (McGill University and the University of Alberta).

There was no connection between having a digital scholarship or digital humanities guide and having a dedicated librarian. Of those institutions with guides, five had a dedicated librarian. Another three had liaison or subject librarians (predominantly in the humanities) listed on the guides. Seven of the institutions without guides had a digital scholarship or equivalent librarian, and one was hiring such a librarian at the time of the study.

Guide Content

Digital humanities or digital scholarship guides varied in scope, structure, and approach to addressing the needs of students and researchers. A majority of the libraries (7) titled their guides “Digital Humanities.” Two exceptions were the University of Calgary’s “Digital Projects” and McGill University’s “Digital Scholarship Resources.”

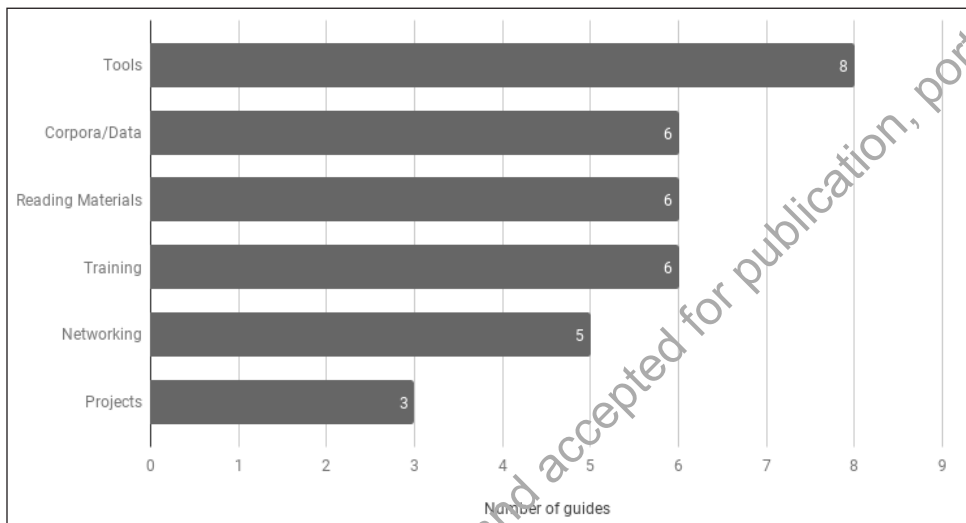


Figure 1. Content categories by the number of digital humanities or digital scholarship research guides in which they appear.

Tools represented the most prevalent category of content in the research guides, with eight of nine guides listing specific tools or tool directories. The most popular tool directories were DiRT/Digital Research Tools (no longer available) and TAPoR/Text Analysis Portal for Research (<http://tapor.ca/>); both were present in seven of the eight guides that listed tools. A total of 64 unique tools were mentioned throughout the eight guides. Of those unique resources, Voyant (<https://voyant-tools.org>) was the most popular, being present in 75 percent (6) of the guides, followed by Omeka (<https://omeka.org/>), a platform to create digital collections, which appeared in 63 percent (5). The next three most popular were Scalar (<http://scalar.me>), a long- and short-form publishing platform; Juxta (<https://www.juxtaoftware.org/>), another text analysis and visualization tool; and Gephi (<https://gephi.org/>), a visualization tool, each with a presence in 50 percent (4) of the guides that listed tools.

Corpora/data, reading materials, and training were each present in 67 percent (6) of the guides. Corpora/data and reading materials were often dependent on the subscription and licenses of each institution. However, several open access collections were listed on the guides, such as Project Gutenberg, the Online Books Page, Public Library of Science (PLOS), and HathiTrust. Reading materials varied significantly from guide



Figure 2. Word cloud showing the individual tools in digital humanities or digital scholarship research guides, with the size of the word indicating each tool's frequency.

to guide. While some simply pointed to databases where material could be found, others recommended specific books, articles, blogs, and other relevant publications. The guides listed 24 unique training resources or opportunities. The Programming Historian website (<https://programminghistorian.org/>) was the most linked resource, having a presence in all six guides that listed training resources. Four of these guides also linked to textbooks for the University of California, Los Angeles (UCLA) course DH101 Intro to Digital Humanities (<http://dh101.humanities.ucla.edu/>).

Networking resources were present in 56 percent (5) of the guides, and they also varied. Some listed only professional associations, which included the Association for Computers in the Humanities; Humanities, Arts, Sciences, and Technology Advanced Collaboratory; the Canadian Society of Digital Humanities/Société canadienne des humanités numériques; the Association for Computers and the Humanities; and the Alliance of Digital Humanities Organizations. Some guides also mentioned communities of practice such as Digital Humanities Now and centerNet: An International Network of Digital Humanities Centers. Two institutions stood out in this area: the University of Alberta guide suggested Twitter handles to follow, and the University of British Columbia in Vancouver listed digital humanities centers in North America and worldwide as well as networking opportunities at the university.

Over half (5) of the guides supplied instructional elements as per our definition. Examples include introductory explanations of digital humanities and associated

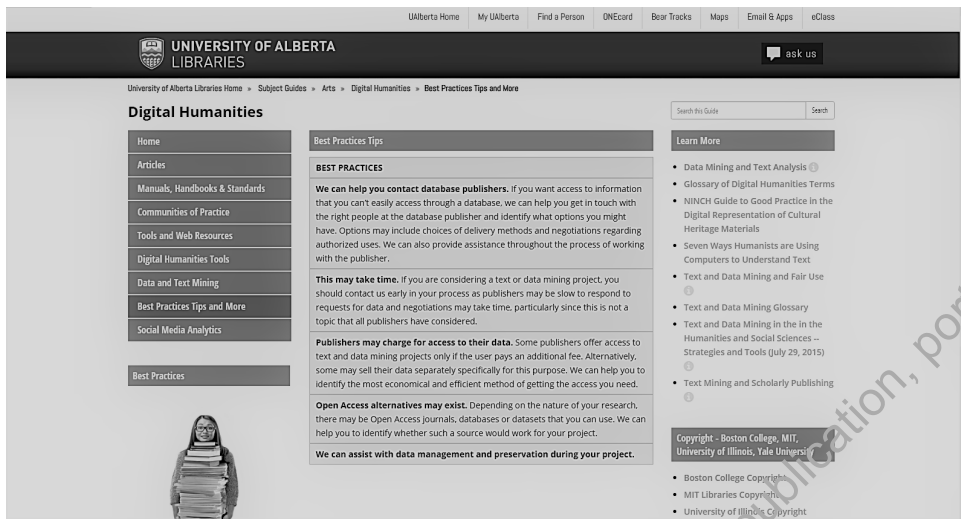


Figure 3. Best practices tips in the University of Alberta's Digital Humanities research guide.

methodologies, as well as advice on managing projects or on using the tools listed in the guides. Only a third of the guides (3) offered links to existing digital scholarship projects, most of them based at the home institution.

Discussion

Overall, online digital humanities or digital scholarship research guides are scarce in Canadian academic research libraries. Many institutions, however, have guides on related topics and methodologies, dedicated librarians, or even digital humanities or digital scholarship centers. There was little overlap between the institutions with guides and those with centers. This may mean that institutions lacking the infrastructure to host a center will more likely have a guide on the subject. In any case, this does not imply that one replaces the other. The review of the centers' websites indicated that, while they offered consultation and training opportunities, the centers' web pages did not cover the same content as the guides.

They could even be considered complementary, because guides can serve as an introductory or road-mapping resource that can help prepare researchers for training or consultations at the centers.

The more comprehensive guides offered not only links to tools but also resources on finding corpora, outside

The more comprehensive guides offered not only links to tools but also resources on finding corpora, outside training opportunities, suggested readings, and avenues for networking.

training opportunities, suggested readings, and avenues for networking. These offerings aligned with the emphasis in the literature on networked communication, open resources,



and critical practice. Because of their broad scope and ease of access, guides may serve as excellent introductory resources for novices and those curious about the subject. It is not necessary to have prior knowledge of DH methodologies or a specific project in mind when exploring the guides, and a user without either may still benefit from their content. Guides, therefore, may remove a significant barrier to entry for newcomers.

About half of the guides reviewed in this article provided some form of instruction. Such directions contributed to making the guides more user-friendly as they helped contextualize the information and took steps toward offering the sort of “meaningful access” discussed by Lewis and Griffin.²⁸ Furthermore, incorporating instructional elements may attract different types of users. Guides that offer only lists of resources organized by type or category assume that readers’ sole purpose for consulting the guide is to decide which resources to use, rather than helping them understand the myriad possibilities available.

The fact that tools represented the most prevalent category of resources in the guides may imply that librarians view this aspect of digital humanities as a key area in which they can offer guidance or support. That said, an analysis of the different guides showed significant variation in the tools included. While the Canadian academic librarian community seems to agree on the best tool directories, only 5 of the 64 tools mentioned appeared in at least half the guides (see the Appendix for a full list). This could suggest a general unfamiliarity with other tools, a reluctance to include certain tools that could not be currently supported, or a decision to list only a small selection of what the guide creator considered the best tools so as not to overwhelm the reader. Another possibility for this variation could be each institution’s definition of *tool*. For example, the tool FilmStrip allows users to visualize film industry information, but it cannot be used to create visualizations. Clear descriptions of the different resources and the choices made when creating the guides may be useful in leading readers to the most appropriate resources for their needs.

It was surprising that more guides did not include links to corpora or data because facilitating access to content is perhaps the function that most obviously aligns with the missions of academic libraries. Furthermore, many of these guide sections simply listed resources with few or no directions on how to use them. In the future, it would be beneficial for institutions to include more information about finding corpora or data, including clear procedures for requesting access from vendors. Basic explanations of how these resources can be used would also be welcome, including hyperlinks to suggested tools.

Conclusion

Surveying online research guides can be a useful exercise to determine best practices,²⁹ to identify important guide content or areas of interest, and to discover new resources. The methodology described in this article can be used by librarians in different disciplines to inform the creation of other guides, regardless of the subject area or topic.

Most Canadian academic research libraries lack a digital scholarship or digital humanities guide, but such guides can be useful in leading researchers through the entire research process, from choosing corpora and tools to disseminating results and networking. Furthermore, they can serve as a gentle introduction to the field for tentative

Those guides that were available varied in content, including such categories as tools, aids to finding corpora or data, and reading materials. However, the information presented in the guides might just represent what librarians believe researchers in the digital humanities need or want. Future research could focus on surveying students, faculty, researchers, or some combination of the three to better understand what users might desire from such guides.

David R. Greene is a liaison librarian in the Humanities and Social Sciences Library at McGill University in Montreal, Canada; he may be reached by e-mail at: david.greene@mcgill.ca.

Tools Listed in Digital Humanities or Digital Scholarship Research Guides

ArcGIS—<https://www.arcgis.com/>
Bibliopedia—<http://sul-cidr.github.io/Bibliopedia/>
Bookworm—<https://bookworm.htcr.illinois.edu/>
CARTO—<https://carto.com/>
Chronos Timeline—<http://hyperstudio.mit.edu/software/chronos-timeline/>
ColorBrewer—<http://colorbrewer2.org/>
Culturomics—<http://www.culturomics.org/>
Cytoscape—<https://cytoscape.org/>
D3—<https://d3js.org/>
Datawrapper—<https://www.datawrapper.de/>
Dipity—<https://www.drupal.org/project/dipity>
Drupal—<https://www.drupal.org/>
Fabula—<https://digital.bu.edu/fabula-maps/>
FilmStrips—<http://acatcalledfrank.com/content/filmstrips-visualisation/index.html>
GeoNames—<https://www.geonames.org/>
Gephi—<https://gephi.org/>
Google Books—<https://books.google.ca/>
Google Fusion Tables—No longer available
Google Maps—<https://maps.google.com/>
Google Ngram Viewer—<https://books.google.com/ngrams>
Harvard University WorldMap—<https://worldmap.harvard.edu/>
HathiTrust Research Center—<https://www.hathitrust.org/htcr>



Historypin—<https://www.historypin.org/>
Import.io—<https://www.import.io/>
Information Is Beautiful—<https://informationisbeautiful.net/>
Intelligent Archive—<https://www.newcastle.edu.au/research-and-innovation/centre/education-arts/cllc/intelligent-archive>
Juxta—<https://www.juxtaoftware.org/>
Leaflet—<https://leafletjs.com/>
MALLET (Machine Learning for Language Toolkit)—<http://mallet.cs.umass.edu/>
Many Eyes—No longer available
MapStory—<https://mapstory.org/>
myHistro—<http://www.myhistro.com/>
nb (nota bene)—<http://nb.mit.edu/welcome>
Neatline—<https://neatline.org/>
Networked Corpus—<http://networkedcorpus.com/>
Omeka—<https://omeka.org/>
Paper Machines—<http://papermachines.org/>
Palladio—<https://hdlab.stanford.edu/palladio/>
Poem Viewer—<https://oxvii.wordpress.com/>
Preceden (previously Timeglider)—<https://www.preceden.com/>
Python—<https://www.python.org/downloads/release/python-301/>
QGIS—<https://qgis.org/en/site/>
Republic of Letters—<http://republicofletters.stanford.edu/>
Scalar—<http://scalar.me>
SIMILE (Semantic Interoperability of Metadata and Information in unLike Environments)
Widgets—<https://www.simile-widgets.org/>
Sourcecaster—<https://dataprxs.github.io/sourcecaster/>
StoryMap.js—<https://storymap.knightlab.com/>
Tableau—<https://www.tableau.com/>
TEI (Text Encoding Initiative)—<https://tei-c.org/>
Textal—<http://www.textal.org/>
Texttexture—<http://texttexture.com/>
TextGrid—<https://textgrid.de/>
Tiki-Toki—<https://www.tiki-toki.com/>
Timeline.js—<https://timeline.knightlab.com/>
TimeMapper—<https://timemapper.okfnlabs.org/>
Timetoast—<https://www.timetoast.com/>
Viewshare (part of Library of Congress Labs)—<https://labs.loc.gov/experiments/>
Voyant—<https://voyant-tools.org/>
Weave—<https://github.com/WeaveTeam/Weave>
Weka 3—<https://www.cs.waikato.ac.nz/ml/weka/>
Wordle—<http://www.wordle.net/>
WordPress—<https://wordpress.com/>
WordSeer—<http://wordseer.berkeley.edu/>
Zooniverse—<https://www.zooniverse.org/>



Notes

1. John Unsworth, "What's 'Digital Humanities' and How Did It Get Here?" *Brandeis Library* (blog), October 9, 2012, <https://blogs.brandeis.edu/library/2012/10/09/whats-digital-humanities-and-how-did-it-get-here/>.
2. Anne Burdick, Johanna Drucker, Peter Lunenfeld, Todd Presner, and Jeffrey Schnapp, *Digital Humanities* (Cambridge, MA: MIT Press, 2012).
3. "The Digital Humanities Manifesto 2.0," 2009, http://www.humanitiesblast.com/manifesto/Manifesto_V2.pdf.
4. Lauren F. Klein and Matthew K. Gold, "Digital Humanities: The Expanded Field" in *Debates in the Digital Humanities 2016*, eds. Matthew K. Gold and Lauren F. Klein (Minneapolis: University of Minnesota Press, 2016), <https://dhdebates.gc.cuny.edu/read/untitled/section/14b686b2-bdda-417f-b603-96ae8fbfd0#intro>.
5. Stephen Ramsay, "Who's In and Who's Out," chap. 13 in *Defining Digital Humanities: A Reader*, eds. Melissa Terras, Julianne Nyhan, and Edward Vanhoutte (Burlington, VT: Ashgate, 2013), 239–42.
6. Pamela Price Mitchem and Dea Miller Rice, "Creating Digital Scholarship Services at Appalachian State University," *portal: Libraries and the Academy* 17, 4 (2017): 827–41, <https://doi.org/10.1353/pla.2017.0048>.
7. Gale, "Digital Scholar Lab," www.gale.com/primary-sources/digital-scholar-lab.
8. Martin Weller, *The Digital Scholar: How Technology Is Changing Scholarly Practice* (London: Bloomsbury Academic, 2011), 6.
9. Robin Goodfellow and Mary R. Lea, eds., *Literacy in the Digital University: Critical Perspectives on Learning, Scholarship and Technology* (New York: Routledge, 2013), 70.
10. Gideon Burton, "The Open Scholar," *Academic Evolution* (blog), August 11, 2009, <https://www.academicrevolution.com/2009/08/the-open-scholar.html>.
11. "The Digital Humanities Manifesto 2.0," 2.
12. Weller, *The Digital Scholar*, 50.
13. Brian Greenspan, "Are Digital Humanists Utopian?" chap. 33 in Gold and Klein, *Debates in the Digital Humanities*.
14. Leigh Cunningham, "The Librarian as Digital Humanist: The Collaborative Role of the Research Library in Digital Humanities Projects," *Faculty of Information Quarterly* 2, 1 (2010): 1–11; Cindy Elliott, Mary Feeney, Chris Kollen, and Veronica Reyes-Escudero, "A DH State of Mind: Libraries and the Digital Humanities," chap. 7 in Kathleen L. Sacco, Scott S. Richmond, Sara M. Parme, and Kerrie Fergen Wilkes, eds., *Supporting Digital Humanities for Knowledge Acquisition in Modern Libraries* (Hershey, PA: IGI Global, 2015), 132–56; Alex H. Poole and Deborah A. Garwood, "'Natural Allies': Librarians, Archivists, and Big Data in International Digital Humanities Project Work," *Journal of Documentation* 74, 4 (2018): 804–26, <https://doi.org/10.1108/JD-10-2017-0137>.
15. Jennifer Vinopal and Monica McCormick, "Supporting Digital Scholarship in Research Libraries: Scalability and Sustainability," *Journal of Library Administration* 53, 1 (2013): 40.
16. Lugina Vilenko, "From Paper to Electronic, the Evolution of Pathfinders: A Review of the Literature," *Reference Services Review* 35, 3 (2007): 434–51, <https://doi.org/10.1108/00907320710774300>.
17. Charles H. Stevens, Marie P. Canfield, and Jeffrey J. Gardner, "Library Pathfinders: A New Possibility for Cooperative Reference Service," *College & Research Libraries* 34, 1 (1973): 40–46.
18. Rebecca Jackson and Kristine K. Stacy-Bates, "The Enduring Landscape of Online Subject Research Guides," *Reference & User Services Quarterly* 55, 3 (2016): 219–29, <http://dx.doi.org/10.5860/rusq.55n3.219>.
19. Barbara Lewis and Melanie Griffin, "Special Collections and the New Web: Using LibGuides to Provide Meaningful Access," *Journal of Electronic Resources Librarianship* 23, 1 (2011): 20–29.



20. Bradley Brazzeal, "Research Guides as Library Instruction Tools," *Reference Services Review* 34, 3 (2006): 358–67, <http://dx.doi.org/10.1108/00907320610685319>; Carl A. Lehn and Terri Artemchik, "Survey of Modern Language Research Guides: A Window on Disciplinary Information Literacy," *Reference Services Review* 46, 4 (2018): 463–78; Vileno, "From Paper to Electronic, the Evolution of Pathfinders"; Kathryn Yelinek, Linda Neyer, Darla Bressler, Michael Coffta, and David Magolis, "Using LibGuides for an Information Literacy Tutorial: Tutorial 2.0," *College & Research Libraries News* 71, 7 (2010): 352–55, <https://doi.org/10.5860/crln.71.7.8402>.
21. Rachel Ann Erb and Brian Erb, "An Investigation into the Use of LibGuides for Electronic Resources Troubleshooting in Academic Libraries," *Electronic Library* 33, 3 (2015): 573–89, <http://dx.doi.org/10.1108/EL-02-2013-0021>.
22. Alisa C. Gonzalez and Theresa Westbrook, "Reaching Out with LibGuides: Establishing a Working Set of Best Practices," *Journal of Library Administration* 50, 5–6 (2010): 638–56; Sara Roberts and Dwight Hunter, "New Library, New Librarian, New Student: Using LibGuides to Reach the Virtual Student," *Journal of Library & Information Services in Distance Learning* 5, 1–2 (2011): 67–75, <https://doi.org/10.1080/1533290X.2011.570552>.
23. Ying Zhang, Shu Liu, and Emilee Mathews, "Convergence of Digital Humanities and Digital Libraries," *Library Management* 36, 4–5 (2015): 371–73, <https://doi.org/10.1108/LM-09-2014-0116>.
24. Poole and Garwood, "'Natural Allies'"; Zhang, Liu, and Mathews, "Convergence of Digital Humanities and Digital Libraries."
25. Poole and Garwood, "'Natural Allies.'"
26. Canadian Association of Research Libraries (CARL), "Membership Requirements," <http://www.carl-abrc.ca/about-carl/members/membership-requirements/>.
27. University of Washington Libraries, "About Digital Scholarship," <https://www.lib.washington.edu/digitalscholarship/about>.
28. Lewis and Griffin, "Special Collections and the New Web."
29. Xi Che and Yao Chen, "Gateway to East Asian Studies: An Analytical Report of Subject Guides in North American East Asian Libraries," *Journal of East Asian Libraries* 2013, 157 (2013): 157–70; Lehn and Artemchik, "Survey of Modern Language Research Guides"; Kimberly Pendell and Annie Armstrong, "Psychology Guides and Information Literacy: The Current Landscape and a Proposed Framework for Standards-Based Development," *Reference Services Review* 42, 2 (2014): 293–304, <https://doi.org/10.1108/RSR-10-2013-0052>; Hugh K. Truslow, "States of Transition: Slavic Studies Research Guides and Information Literacy," *Slavic & East European Information Resources* 10, 2–3 (2009): 276–88, <https://doi.org/10.1080/15228890903222833>.