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Psychology Guides and Information Literacy: The Current Landscape and a Proposed Framework for Standards-Based Development [Post-print]

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Structured Abstract:

Purpose: In order to assess the existing landscape of research guides as instructional tools, researchers examined the instructional content and associated media formats of online psychology research guides. The study provides an understanding of current guide author practice and informs the further development of guides as key instructional tools.

Design/methodology/approach: Researchers devised an instrument utilizing Standard Two of the ACRL's Psychology Information Literacy Standards and inventoried the instructional content and associated media formats of a sample set of 36 psychology research guides. **Findings:**

Although online research guides offer a platform for presenting instructional content in myriad formats, psychology research guides rarely incorporate instructional content. **Research**

limitations/implications: Psychology course guides were not part of the sample set; it is possible that guide authors approach the addition of instructional content in course guides differently than more general subject guides. **Practical implications:** This paper provides an overview of how

libraries are, or are not, using research guides as part of their instruction program. The researchers propose a framework for adding instructional content to psychology guides

employing Standard Two. **Originality/value:** Considering the ubiquity of online research guides on academic library websites, little research on the existing integration of instructional content into guides has been published. This study offers a snapshot of current guide practice and proposes a practical, systematic, and unique model for aligning information literacy standards with guide content areas which has not been proposed elsewhere.

Psychology guides and information literacy: the current landscape and a proposed framework for standards-based development

Introduction

Online research guides are ubiquitous on academic library websites, most often used to highlight resources for a particular discipline or course. However, a more expansive approach to research guides is to function as instructional tools that introduce and reinforce information literacy concepts and skills. By integrating instructional elements into guides, as opposed to merely presenting lists of resources, librarians have the potential to support student learning outside of one-shot library instruction sessions or other limited settings. For example, tutorials or worksheets integrated into a guide could be used in a flipped classroom model, freeing up the instruction librarian to cover more topics or go into more in depth during the one-shot instruction session. The pervasiveness of online education creates a need for additional support for distance learners with limited access to library assistance and instruction; online subject and course guides provide tailored, asynchronous guidance on how to effectively use library resources. Designed effectively, online research guides also market the educational mission of the library to the campus community, challenging the traditional image of the library as primarily a provider of resources.

In the late 1990s and early 2000s, librarians began developing online guides in the form of webpages to provide instruction and subject-specific resource pages (Ury, 2000). Over time, web-based platforms for building guides were created, either as in-house web development projects or widely available commercial products. SpringShare's LibGuides is arguably the most frequently used guide platform in academic libraries; Graphery and White (2012) surveyed 99 university library websites and found that the LibGuides platform was employed at 67 libraries.

The LibGuides platform enables the integration of a diverse array of media, along with the standard lists of resource links common to all types of research guides. Other guide platforms, such as Library a la Carte, also allow multimedia or interactive elements to be embedded within a guide. Considering the broad use of guide platforms and the ease with which guide authors may add video, PDF and Microsoft Word files, screenshots and other files to guides, one assumes that guide authors would use these features in order to build research guides that provide instructional content to students. However, no systematic study had examined the degree to which librarians are utilizing this multimedia capability of online guides to teach information literacy concepts and skills.

As subject librarians for psychology, the researchers of this study were specifically interested in how other psychology librarians use online research guides to support students' information literacy development within the field of psychology. The primary research questions for this study were therefore: Are librarians offering instructional content on psychology research guides? What instructional content is offered on the guides and in what formats? Answering these questions would establish a foundational understanding of current practice and inform the further development of guides as key instructional tools. By inventorying guide content, the researchers explored how librarians leverage--or don't leverage--supplementary instructional content on psychology subject guides to support the learning outcomes of the Information Literacy Standards for Psychology.

Review of the Literature

As online research guides have become more prevalent in academic libraries, several studies have described and evaluated implementation processes and recommended best practices for design informed by the results of usability testing or other methods of gaining user feedback.

Multiple studies focus on the overall implementation of online research guides at various institutions (Gonzalez and Westbrook 2010; Little et. al., 2010; McMullin and Hutton, 2010; Wakeham et al., 2012). Additional studies involve detailed analysis of specific design elements of LibGuides and provide useful guidance for guide design. Courtois, Higgins, and Kapur collected user feedback on online subject guides by posting a one-question survey on every guide at their institution. Responses indicated that many users did not find the guides helpful and that further testing was warranted in order to guide optimal design of future guides (Courtois et al., 2005, pp.194-195). Sonstebly and DeJonghe (2013) conducted multiple rounds of usability testing on LibGuides which provided a wealth of data as to the usefulness of online research guides. Their study highlighted problematic design elements including an overabundance of tabs, confusing search boxes, and inconsistent labeling conventions. Among other insights, they argue that librarians should focus on user needs rather than information types when designing guides. In another study, a survey of 55 students at University of British Columbia gathered feedback on three different guide platforms and established which content and design elements students found most useful (Hintz et al., 2010). A “top ten” list of student preferences for guides resulted from the survey: simple layout, minimal scrolling, annotations, search feature, tabs, section headings, citation-related information, embedded instruction, easy to understand content, and librarian contact information (Hintz, et. al, 2010, p. 45).

Taking a different approach to studying guide effectiveness, Sinkinson, Alexander, Hix and Kahn (2012) performed a card-sort usability test of multiple online research guides at the University of Colorado Boulder to gather feedback from undergraduates and graduate students and explore questions of pedagogy and design. Test results revealed discrepancies between librarian and student models of the research process as manifested in research guide design. The

researchers pinpointed areas in which the variances between student and librarian models were evident, suggesting that librarians should endeavor to create guides with a clear purpose (e.g. learning tool or resource list), which better fit with the user's research process and context, and are flexible enough to meet a range of research levels and needs. They encourage guide creators to offer more context-specific help tools such as maps and tutorials, and to go beyond the format-based categories which served as the primary organizational scheme for guides at their institution.

While many studies analyze online research guides and their general usefulness to researchers, fewer studies have provided in-depth analysis of research guides in terms of how well the guides impart instructional content and address information literacy competencies. Galvin argues that in general, librarians need to support information literacy skills beyond classroom instruction, suggesting that web-based pathfinders are a useful means of imparting these research skills (Galvin, 2005). Truslow (2009) examined Slavic Studies research guides found on 17 university web pages, aiming to explore how guides related to information literacy and Slavic Studies. In examining information literacy content on research guides, Truslow focused on ACRL's *Information Literacy Competency Standards for Higher Education*, Standard One and Two (determining the nature and extent of the information need, and accessing information effectively and efficiently respectively). Truslow discussed how guides could better address Standard Two and the specific performance indicators therein, suggesting that adding online tutorials and specific examples would foster independent learning and self-sufficiency.

Two additional studies have examined guides in relationship to specific disciplines. Miner and Alexander (2010) explored the impact of course-specific LibGuides on student information literacy skills in two Political Science courses at North Georgia College and State

University, finding that although further research was warranted, LibGuides proved to be a useful means of disseminating course-specific instructional content and reinforcing information literacy skills. Brazzeal (2006) examined existing online Forestry subject guides on library websites to determine the extent to which the guides relayed instructional content, by addressing ACRL's *Information Literacy Competency Standards for Higher Education* Standard One and Two, and LaGuardia and Oka's *7 Essential Elements of an Effective Library Instruction Session*. Brazzeal encouraged authors to draw from ACRL's *Information Literacy Competency Standards* in determining which resources and services to include in research guides.

Previous studies have examined online research guides and have argued for greater focus on information literacy, specifically highlighting Standard Two, Performance Indicator 2 (2.2). Yet, none of these studies have utilized an in-depth inventory examining how guides reinforce information literacy standards based on how they address specific outcomes delineated within Standard 2.2, or within a discipline-specific context. The greater degree of granularity with which researchers in this study analyzed existing guides provides valuable information as to which areas of guides could be bolstered in order to provide a wider breadth of instructional content.

Methods

In order to examine the instructional content of existing psychology research guides, the authors inventoried the content of a sample set of psychology subject guides. The researchers chose to use the libraries of Association of American Universities (AAU) as the initial sample set because the 60 universities of AAU are research-intensive institutions, and each likely to have a library with a robust online presence and an extensive collection of psychology resources and courses at both the undergraduate and graduate level. Researchers searched for a psychology

research guide on each library website and assessed whether it should be included in the next stage of the study. In order to form a sample set sufficiently consistent for the in-depth inventory, they determined not to include course guides which would differ greatly based on the curriculum and assignments at individual institutions thus problematizing comparison of features, or guides devoted to narrower topics within the broader discipline of psychology (e.g. neuroscience, educational psychology) which would also vary greatly based on programs offered. A second round of review established which psychology research guides contained instructional content which could be inventoried. For the purposes of this study, the researchers defined instructional content as content provided on the guide beyond basic lists of resources annotated with system-wide default descriptions of databases and other resources.

Similar to Brazzeal (2006), the researchers utilized the outcomes of performance indicator two of Standard Two of ACRL's *Information Literacy Standards for Psychology* to map the instructional content to be inventoried for the study (see Table I). Researchers created an online form in Qualtrics to collect data (see Figure 1). The researchers further developed the form after performing inventories of a small subset of sample guides, which proved helpful in identifying common guide features, establishing the desired fields for format and creator of the instructional content, and creating inter-rater agreement. The format and creator fields in the inventory instrument allowed the researchers to track the use of multimedia and other formats used by guide authors, and the use of existing American Psychological Association (APA) or vendor (e.g. ProQuest) created instructional content versus locally created content. Researchers also used the form to track overall organizational schemes of guides as indicated by page titles of the guide (e.g. articles, books, web sites). The two researchers independently inventoried the content of each guide in the sample set. Upon completion of this final stage of the inventory

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process, they collated the data. The researchers then reviewed discrepancies between their individual inventories for each guide and came to agreement before analyzing trends in the data.

Table I: Instructional content of guides mapped to Information Literacy Standard 2.2

Standard 2, Performance Indicators 2	Related Guide Content
a. Uses appropriate psychological terminology for searching databases, recognizing the different effects of using keywords, synonyms, and controlled vocabulary from the database	Content related to searching <ul style="list-style-type: none"> ● PsycINFO keyword and subject heading searching ● Google Scholar, catalog, or other database searching
b. Creates and uses effective search strategies in relevant databases using advanced search features, such as Boolean operators, truncation, and proximity searches	Content related to searching <ul style="list-style-type: none"> ● PsycINFO limits, truncation, explode/focus ● General content related to Boolean searching, phrase searching and truncation ● Google Scholar, catalog, or other database advanced search features
c. Retrieves scholarly journals, books, and sources appropriate to the inquiry	Content related to retrieval <ul style="list-style-type: none"> ● Interlibrary loan service information ● Link resolver ● Call number browsing ● Catalog description ● Catalog basic search
d. Seeks out knowledgeable individuals in the library and academic department as part of the search plan	Contact information <ul style="list-style-type: none"> ● Psychology librarian ● Reference assistance contact information
e. Assesses results to ascertain if there are information gaps and revises or expands search strategy as necessary	Content related to search revision strategies or result assessment

Figure 1: Sample section of data collection form

PsycINFO Content -- created locally							
	Instructional Text	Screen Shots	Handout	Embedded Video	Linked Video	Linked Webpages	Presentation Slides
PsycINFO Keyword 2.2.a	<input type="checkbox"/>						
PsycINFO Subject Headings 2.2.a	<input type="checkbox"/>						
PsycINFO Limits 2.2.b	<input type="checkbox"/>						
PsycINFO Explode, Focus 2.2.b	<input type="checkbox"/>						
PsycINFO Truncation 2.2.b	<input type="checkbox"/>						
Other <input type="text"/>	<input type="checkbox"/>						

Results

Out of the 61 AAU libraries, researchers identified 56 online psychology research guides. After reviewing the guides for instructional content, the researchers established a sample set of 36 guides eligible for inventory. While the researchers did not formally track guide platform, the LibGuides platform easily accounted for almost all guides in the sample set. Ninety-two percent of guides were organized by resource format; the most commonly used guide pages were:

- Articles (or Databases);
- Books;
- Tests and Measures;
- and APA Style.

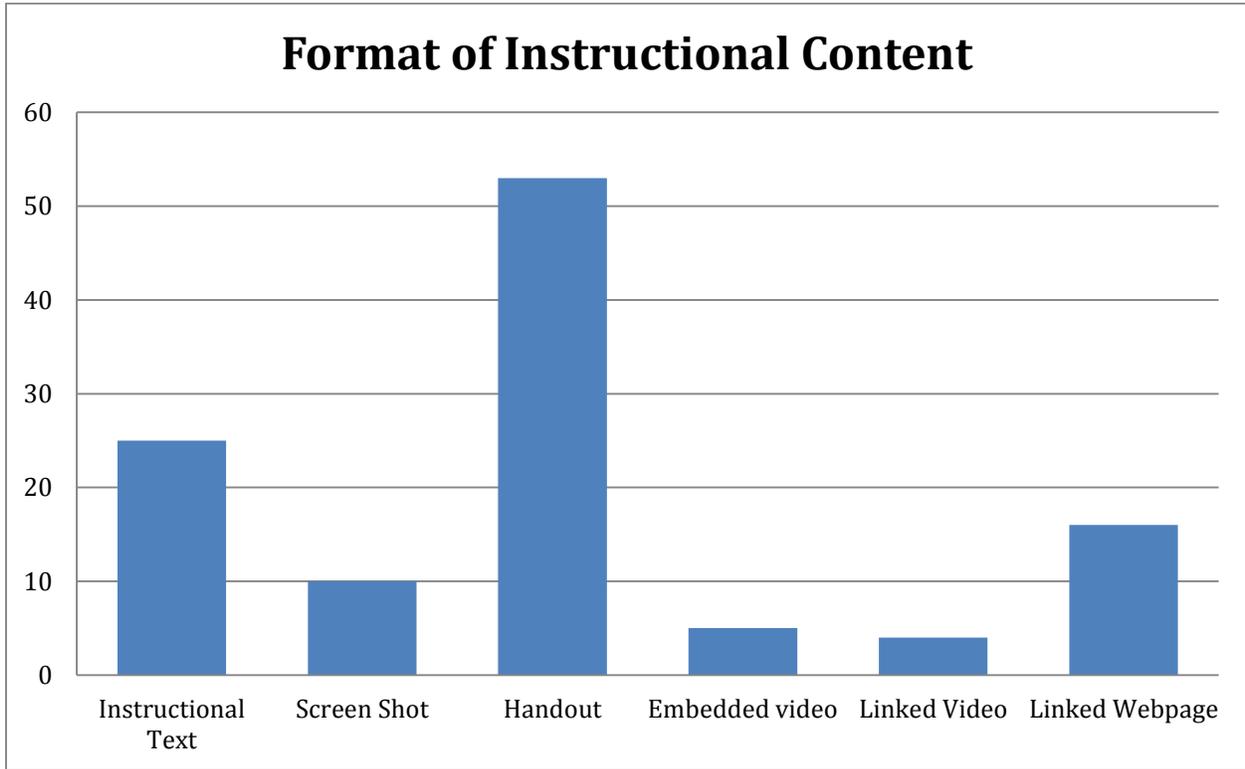
Additional frequently observed guide pages were most likely the following:

- Reference (or Encyclopedias and Dictionaries);
- Journals;
- Websites;
- Statistics and Data.

The researchers found that instructional content was most often presented in the form of a handout (a PDF or Word file), followed by instructional text. Annotated screen shots embedded

within guides were featured to a lesser extent. Guide authors infrequently provided linked or embedded video tutorials focusing on database searching or other relevant content (see Figure 2).

Figure 2: Format of Instructional Content



PsycINFO is the standard database used for psychology research, and the instructional content of psychology guides reflects this. Guide authors frequently provided content related to performing keyword and subject heading searches in PsycINFO (see Tables II and III). Guide authors often utilized instructional content created by the APA or database vendors; overall 66 percent of guides included APA or vendor created content in at least one format. Researchers also tracked content related to more advanced search features in PsycINFO or other databases. Guide authors included content related to using limits, truncation, and Explode/Focus to varying degrees. Eighteen guides included information on using limits in PsycINFO or other databases; eleven guides described truncation; only three guides included information on the Explode/Focus

option. Also related to database searching, eight guides provided generic instructional text explaining how to perform a Boolean and a phrase search.

Table II: Instructional content related to PsycINFO keyword searching

Format	Created Locally	APA or Vendor Created	Total
Instructional text	1	1	2
Screen shots	1	0	1
Handout	3	5	8
Embedded video	0	0	0
Linked video	1	3	4
Linked webpages	0	2	2
Presentation slides	0	0	0
Total	6	11	17

Table III: Instructional content related to PsycINFO subject heading searching

Format	Created Locally	APA or Vendor Created	Total
Instructional text	3	1	4
Screen shots	3	0	3
Handout	2	7	9
Embedded video	0	0	0
Linked video	0	4	4
Linked webpages	0	2	2
Presentation slides	0	0	0
Total	8	14	22

The researchers inventoried content related to Standard 2.2.c (the retrieval of scholarly materials) and found that fifteen guides provided instructional text that described the basic scope

of the library catalog or discovery tool. Out of the total 36 guides inventoried, instruction on how to access full text using a link resolver and request items via interlibrary loan was included in eighteen and seventeen guides respectively. This content was almost exclusively conveyed through text; other formats were very rarely used. Similarly, guide authors used text rather than other visual methods to provide instruction on other forms of content retrieval: table of call numbers related to psychology for browsing the stacks (four guides); instructions on how to read a Library of Congress call number (one guide); text regarding how to find and access ebooks (one guide). All guides provided contact information for a librarian, regularly identified as the subject librarian for psychology, fulfilling the researchers' inventory criteria for Standard 2.2.d ("Seeks out knowledgeable individuals in the library and academic department as part of the search plan"). Instructional content focusing on how to assess results and revise searches, Standard 2.2.e, appeared on nine guides as either instructional text, a handout, or a linked webpage.

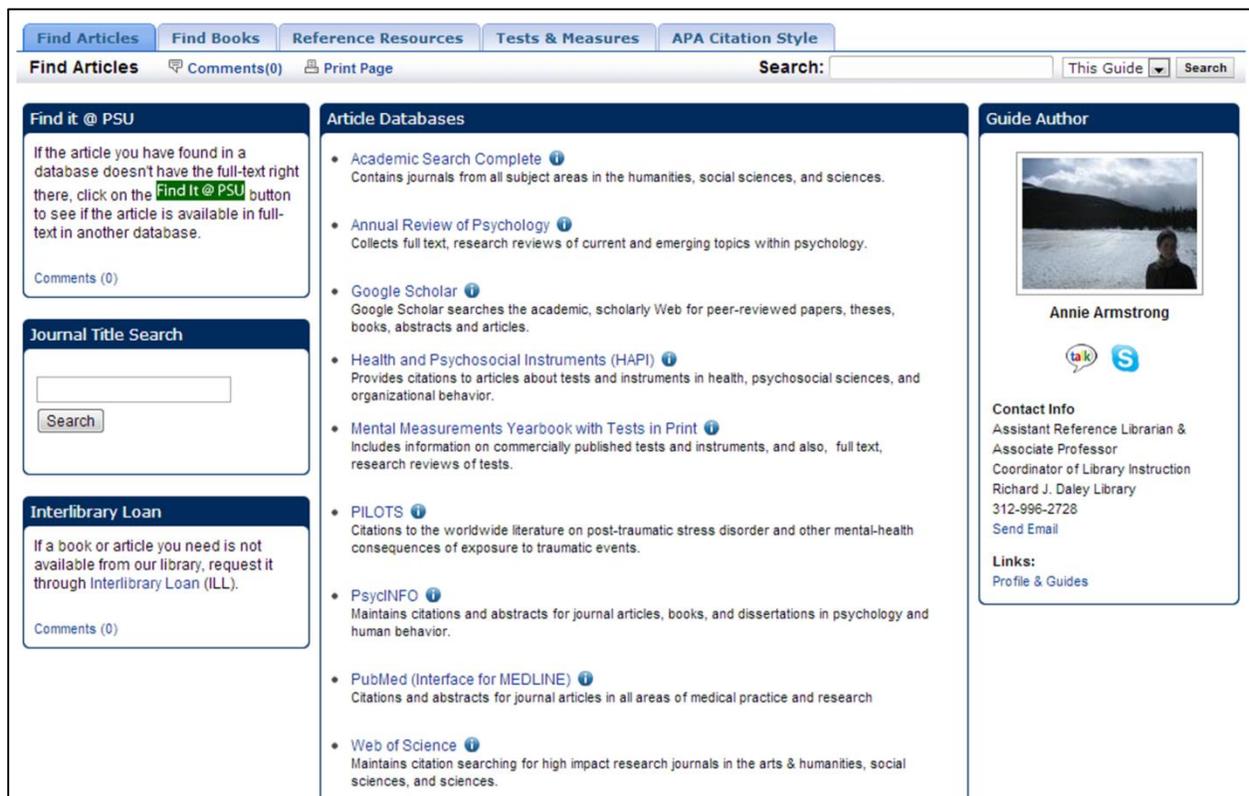
Finally, researchers also noted guides with links to vendor created instructional materials that were too broad in their range of content to classify within the matrix of the data collection form and did not address specific standards. Seven guides linked to the APA's *Tutorials on APA Databases* webpage (<http://www.apa.org/pubs/databases/training/tutorials.aspx>). Five guides linked to the APA's PsycINFO YouTube channel (<http://www.youtube.com/user/PsycINFO>). Three guides provided a link to ProQuest's PsycINFO guide (<http://proquest.libguides.com/psycinfo>).

Discussion

The results of the psychology research guide inventory revealed a surprising lack of instructional content on guides to accompany lists of resources. Guides followed very similar

organizational structures, with pages dominated by lists and default resource descriptions. Researchers observed only minimal instructional content, and rare use of formats such as embedded video. Handouts were the most common format of instructional content linked to on guides; it is possible that this finding reflects a simple merger of traditional instructional methods used in one-shot instruction sessions with the newer online platform. Figure 3 provides a mock-up example of the typical guide from the study’s sample by incorporating elements most commonly included on guides.

Figure 3: Mock-up of typically observed guide



Considering the centrality of PsycINFO to performing psychology research, it was surprising how few guides explained the intricacies of effectively searching the database. A few guides highlighted how to perform a keyword or subject heading search in PsycINFO. However, many guides simply included PsycINFO as part of a longer list of resources organized

alphabetically. For the user new to the field of psychology, it might be difficult to grasp which database or resource would be best to search and why. Much of the PsycINFO content was created by the APA or a vendor, demonstrating that some guide authors capitalized on this readymade content. The APA and vendors such as ProQuest supply ready-made support materials, easy for a guide author to integrate into their guide. Vendor-created content can be particularly convenient when an interface is updated, rendering earlier in-house screenshots and tutorials useless. However, researchers observed that links to vendor content provided little context for the user of the guide. A naive user would likely benefit from descriptive box headings or other text annotating these links to explain the usefulness of the content and increase their motivation to click and view that content. Also, most guides did not utilize the embedding option for video tutorials, failing to capitalize on the sense of immediate availability and relevance that an embedded video imparts to a user compared to a simple link to video content.

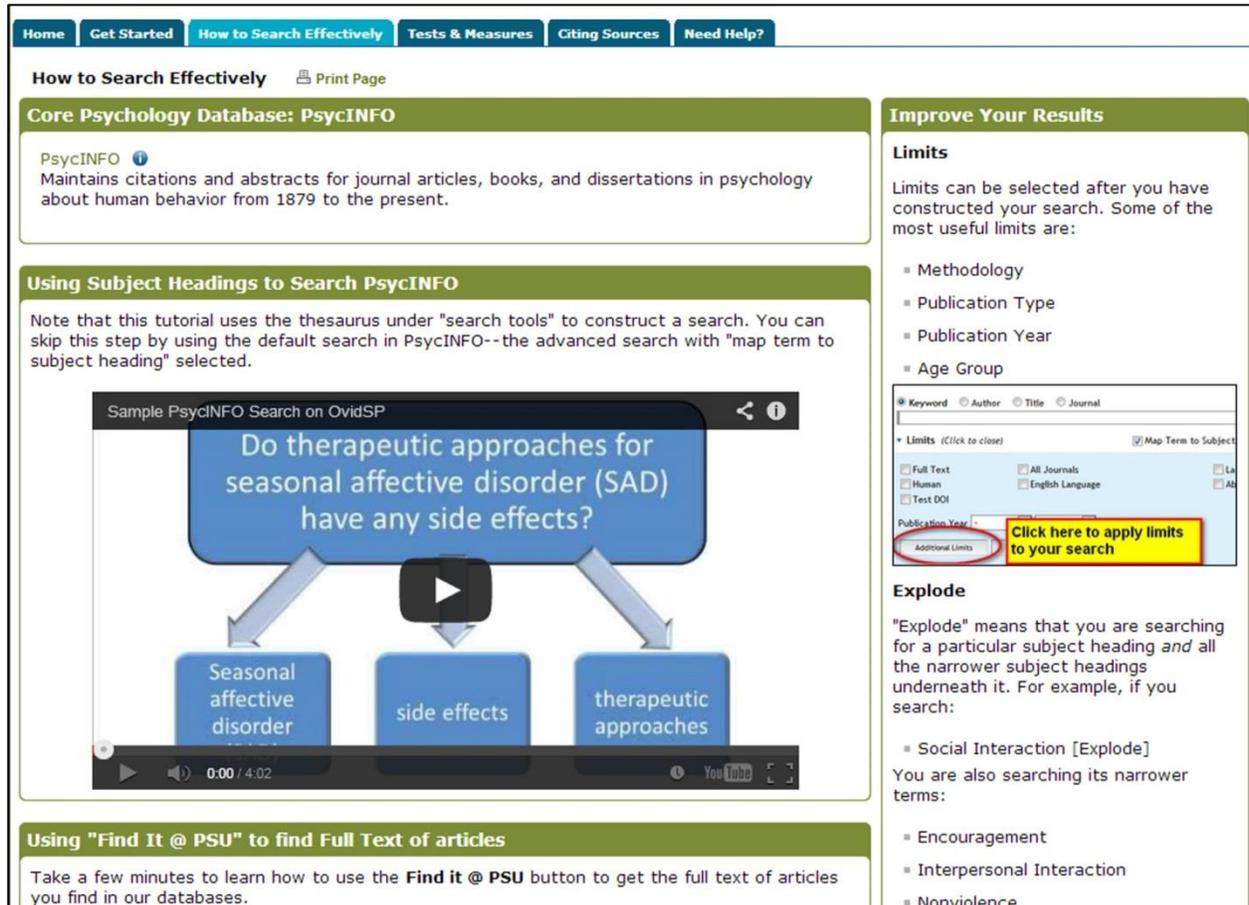
Overall, the guides inventoried for this study did not reflect the existing research that has established guide users' need for contextual help and instruction. Also, upon completing their review of the guides, researchers had the overall impression that librarians are designing guides very similarly, which could indicate a manifestation of librarians' collective mental model of organizing guides around resource format rather than process (Sinkerson, Alexander et. al, 2012). Almost every guide from the AAU list organized guide resources according to format, with little attention to a user-based or research process model. It is possible that the legacy of print pathfinders has influenced current practices.

The guide framework developed at the University of Texas at Arlington Library is a progressive approach to matching guide organization to steps in the student's research process: Get Started, Create a Plan, Gather Information and Help (<http://libguides.uta.edu/educause2012>).

These steps are possibly more relatable to students seeking to accomplish a research related task as opposed to the commonly utilized resource-based organizational schemes such as finding books, articles, and encyclopedias. Another possibility for structuring guides is to follow a framework that maps information literacy standards to guide content. This framework would encourage the development of guides based more on research skills and processes and less on resource format (journal article, book, etc). While not all of the information literacy standards would translate to appropriate subject or course guide content, Standard Two has significant potential to be addressed by librarians via an online guide.

A mock-up of a psychology guide page created with Information Literacy Standard Two as a framework for building guides demonstrates the integration of instructional content, such as an embedded video created by the APA, paired with relevant resources. Page tabs have more active, process-oriented titles and explanatory text is provided to annotate links. Visual indicators such as annotated screen shots help orient the user and provide them assistance in effectively using a research tool. Based on best practices for guide design and usability, librarians must balance providing access to resources and useful instructional content with the possibility of overwhelming users with an overabundance of text, tabs or boxes.

Figure 4: Mockup of guide developed with proposed framework



Few studies have examined guide content in great depth, through means other than usability testing, which tends to be more concerned with clarity of navigation, and density and placement of text and links. This inventory of content and its formats reveals that many existing psychology subject guides are only sparsely populated with instructional content. Librarians adhere closely to the convention of listing links, despite evidence in the literature that this method does little to support student learning. However, there are limitations of this study related to the scope of the sample and the depth of the analysis. Researchers did not include online course guides or topic guides related to psychology in their sample in order to ensure optimal consistency between the guides inventoried. It is possible that course guides or more specific topical guides related to psychology would provide more instructional content than the typical

overarching psychology subject guide, especially given that previous research has recommended that course guides are more attractive to students than general guides (Reeb and Gibbons, 2004). Also, the researchers did not attempt to assess the quality of the instructional content, only whether content that fit the established criteria was presented on guides.

The subject of the instructional role and effectiveness of online guides is still rich for future research. For example, a similar inventory of course guides would provide an interesting contrast to the type of content featured on general subject guides. Considering the results of this study, a better understanding of why guide authors opt to include, or not include, instructional content on guides would be informative. Such information could be gleaned through qualitative methods such as interviews or through surveys. Finally, usability testing and assessment of an instructionally robust guide created with the framework proposed in this study would either validate or invalidate the effectiveness of this approach to guide design for users.

Conclusion

With the instructional demands faced by librarians and the call for increased support for online courses, online subject and course guides provide a flexible, easily accessible instructional tool. Clearly, many libraries invest in subscribing to an online guide platform (predominately LibGuides) and could reap more value from guides if they are utilized the full functionality of the guides to impart instructional content providing greater support for one-shot instruction and distance learners. The results of this content inventory of psychology research guides suggest that currently many guides are not created with instruction in mind, but instead simply serve to organize lists of resources. The reasons for the minimal presence of instructional content are unclear and worthy of additional research, particularly considering current emphasis on

supporting distance students and expanding or supplementing instruction programs within academic libraries.

This study recommends a process for guide creation rooted in utilizing information literacy standards agreed upon by subject experts in psychology and information literacy. While designing guides which reflect information literacy standards and impart information literacy concepts arguably serves student research skills to a greater degree than many other methods of design, this practice has additional merits. Not only are online research guides used by students, but they are visible to faculty, instructors and administrators at colleges and universities who may lack familiarity with information literacy or with the general idea of the librarian as a partner in education. Guides provide librarians with a vehicle for marketing their educational role, and provide a basis of discussion in forming new campus partners. By deliberately designing guides that focus on the research process, librarians challenge a common misconception that students arrive at college knowing how to do research, and that there is no need to seek the assistance of librarians in effectively and efficiently finding and evaluating information.

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