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This paper addresses inconsistencies in the research guides created by University Librarians at the University of North Carolina at Chapel Hill. Based on an analysis of descriptive data collected from a sample of guides, as well as search log data collected in the Fall 2004 academic term, it identifies elements that lack consistency, and gives an overview of guide content and format.

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AN ANALYSIS OF RESEARCH GUIDES AT UNC-CHAPEL HILL

by  
Shauna A. Griffin

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Lisa Norberg

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## Introduction

The University Library System at the University of North Carolina at Chapel Hill declares in its mission statement that its objectives include, among other items, to “teach users to find information wherever it may reside, to evaluate, and to interpret that information, and assist users to develop information literacy skills for lifelong learning” (<http://www.lib.unc.edu>). While the attainment of this goal is incorporated into the face-to-face interaction of a librarian and a library user in reference interviews conducted across campus, there are many more users who do not approach the reference desk. How does the library help these users? How do librarians provide assistance 24 hours a day? How do they assist students in classes who, semester after semester, need subject specific aid? How do they capture and maintain the knowledge of subject specialists, in order not to have to ask of them the same questions, day after day or semester after semester?

If one of the primary goals of the Library system at UNC is to encourage students to learn how to research, and to provide these students with the most effective research tools possible, the attainment of this goal is both supported and complicated by the breadth and depth of resources available to UNC students. With hundreds of electronic databases, more than 43 thousand electronic journal titles and hundreds of print journals, with close to 6 million volumes in libraries across the UNC campus and untold numbers of websites and webpages available to patrons, what many library users need is a map, or something that will guide them to the information resources appropriate to their needs. In

an increasingly complex information environment, librarians must address the needs of library users overwhelmed or confused by the enormous amount of information available. Like the vast majority of academic libraries, in response to these needs, the UNC University Libraries have built a collection of web-based guides and tutorials designed to help students utilize the libraries and their resources effectively. This paper analyzes those tools to determine whether they are effective in meeting researchers' information needs. By looking at the types of guides offered and by analyzing the queries entered by library users through the electronic search function, I propose to study the effectiveness of the research guides at UNC. Because the quality of a guide is also critical to its effectiveness, I look also at how often the research guides are updated, how they are created, and who creates them, in order to further assess whether research guides and tutorials are the most appropriate tools for the librarians to use. My research is based on search logs collected over the Fall 2004 semester, and by analysis of the content of the research guides themselves.

## Literature Review

Library websites by their very nature must cover a multitude of topics, and condense a complex array of information into a comprehensible and orderly format. A student searching for relevant information has a number of options as to how to conduct that search, and it is the library's responsibility to make those options simple and clear. But the image that comes to mind when considering the widespread nature of the information contained within a library website is that of a multidimensional choose-your-own-adventure story. The choices a user makes while navigating a website create a personalized but replicable path. Backtracking is as possible on a website as it is in the adventure book, but where websites truly break free of barriers is in the number of possibilities available, the speed with which a user may follow or create a path, and the ability to search, by using specific terms, in order to more quickly reach a desired conclusion. However, these barrier-breaking abilities also create situations that can sometimes constrain or confuse the user more than they help.

First, the number of directions in which a user can go while searching even a fairly simple website can be overwhelming. When faced with a complex site like that of a library at a research institution like UNC, the inexperienced searcher may be seriously daunted by the seeming impossibility of completing a successful search, turn tail and head for home – or Google. The library website then necessarily must be simple to navigate, and must even offer shortcuts and simplified variations on its theme of research and information. That is where research guides come in. Ideally, they offer the student, lost

among hundreds of databases and thousands of journals and millions of books, a comparatively short list of resources appropriate for and specific to his needs. In an excellent evaluation of research guides on selected Canadian university library websites, Candice Dahl also points out that research guides that cover broad topics must also offer research tips, so that those students interested in particular subtopics that have proportionally fewer resources listed can still go off and search successfully on their own (233). Ideally, of course, all research and subject guides, no matter the size, would offer research tips. But according to both the literature on the topic and my own research into the guides at UNC, it appears that online research guides don't have much consistency. This is true both among the broad category of all libraries as well as within a single system, like the libraries at UNC-Chapel Hill.

Online subject guides are a valuable resource, and they can be found at many libraries. In content and format, however, they range from in-depth guides created by subject specialists within the library, to lists of helpful webliographies hosted elsewhere. A 1999 study by Morris and Grimes found that 88% of libraries surveyed had subject guides online (213), but that there was no real consistency among the libraries when they examined who was responsible for creating them. Of the responses, the most popular was reference librarians, with 56 percent. But web masters (39%) and subject bibliographers (29%) are also often responsible for creating guides. Other answers included committees (12%) and "others" at 22 percent, as respondents could provide multiple answers (214). Morris and Grimes also found that the guides themselves did not follow any consistent format when considering issues like annotations and types of Internet-based resources. In

fact, the only consistency among libraries seemed to be that maintenance of the guides was not as orderly as the process to create the guides (215).

Guidelines for print pathfinders have long been established, and incorporate such elements as consistency of format, elimination of jargon, brevity, and good design (C. Dahl 228). As pathfinders move to the web, however, the guidelines used for print versions become outdated and too inflexible for an online resource. Certainly, research has shown that very few online pathfinders follow any sort of guidelines (C. Dahl, Morris and Grimes, Jackson and Pellack). While Morris and Grimes did not mention whether or not the individual libraries used templates – or even had guidelines – to create the guides, they did conclude that a significant amount of time at libraries the world over could be saved if there were more collaboration on subject guides, and less replication.

Since 1999, OCLC has been working on a collaborative project called the Cooperative Online Resource Catalog (CORC), which ideally will allow libraries to share catalog records for online resources. But even if widespread collaboration between disparate and unaffiliated libraries never takes place with regards to their subject guides, libraries that do have something in common can benefit from recommendations to save time. The consistency a research guide template would provide would benefit both the creators of the guides and their users. The individual libraries and their subject specialists would still be able to create, edit, update, and claim responsibility for subject-specific guides, and may even be able to improve their visibility by following some sort of guidelines for placing logos. Following a template may also save the librarian time, both during the creation of the guide, and perhaps also while maintaining it. The library system becomes a more welcoming place to overwhelmed students if its resources are

standardized, as consistency among resources allows students to become familiar and comfortable with their options far more quickly than if they are faced with widely differing interfaces, especially if they are consulting more than one guide (C. Dahl 229). UNC University Libraries have already taken a major step in that direction by creating, and using, a template for tutorials. While these tutorials offer general research tips and search strategies, sometimes more specific resource suggestions are necessary, especially in cases where the tutorials do not cover specific subjects. This is where the subject guides can be helpful. It is a logical progression from templates for tutorials to templates for subject guides. However, while the UNC University Libraries does have in place a research guide template that all librarians can use when they create (or update) a guide, its use is entirely voluntary. It is also extremely minimal, as it refers mainly to font style, size, and color, with no guidelines for layout at all.

Mark Dahl took consistency one step further at his library. As Library Technology Coordinator at Lewis & Clark College, he found that consistency in guide interface not only helps students and frees up time for librarians when they create their guides, but if supported the right way it becomes easier for library staff to update multiple pages, if, for example, a resource becomes unavailable. Further, if the content and the presentation of a page are separated, librarians are free to concentrate on the resources, and not how they'll look on the page. His system was built on tables and databases that stored resources in a central location, and programming language that UNC does not now use in this area. While a similar system could prove to be very valuable at UNC, and well worth the time and effort needed to put it into place, it is beyond the scope of this paper to evaluate at this time.

Just as essential as the quantity of possibilities offered by the library website are the search options available to help the user discover appropriate resources. The UNC Library website offers the ability to search among the subject guides using keywords, as well as giving specific subject selections. Either of these options can help to guide a student's search. And while the ability to search the guides helps the student, keeping track of the searches themselves can also help a library to determine whether or not they are offering the appropriate and desired subject guides. Jackson and Pellack, however, discovered that only 67% of the members of the Association of Research Libraries (ARL) surveyed actually kept any usage statistics, and that many of those who did keep statistics did nothing with them (325).

In another study, Reeb and Gibbons analyzed some preliminary usage statistics by looking at counters located at the bottom of University of Rochester subject guides (125). The authors suggest that the low use of subject guides may be due to the fact that students do not understand that their information needs can be met by subject guides (124), primarily because they are focused on the specifics of their course demands, rather than on the broader disciplines associated with subject guides. In fact, the librarians at their institution (University of Rochester) have formed a new way to address the specific needs of their patrons – they create subject guides for individual courses (126).

It is clear that in considering the future of subject guide research, there is a need to analyze usage statistics (C. Dahl 234) and to consider the way that students search for and use the resources available to them. No matter how well the guides themselves are created, if they don't fulfill the needs of the patrons, or are unavailable to them because they are too difficult to find, they are useless.

While many of UNC's undergraduate students benefit from library instruction through their English classes, there are many others that do not. Nor do graduate students generally have the opportunity for scheduled library instruction. The instruction classes themselves cannot cover all the topics a librarian may wish her students to understand. It is therefore fairly important that the library website and its component parts be attractive, helpful, and easy to use. In 2002, instruction librarians found that the most desired feature for the UNC library's website was ease of use arrived at through an efficient design and a lack of confusing and excessive text or links (Vassiliadis and Stimatz, 341). The students they surveyed also noted that the website should be intuitive – and this point can certainly apply in the case of online research guides. Students should be able to feel that if they have mastered one guide, they can master them all, rather than have to figure their way through another format.

## **Background**

In addition to subject guides, the library maintains a list of research tutorials (eleven; in this paper I will not specifically address resources supported by the Health Science Library) which, in the fall of 2004 could be found two links away from the main library page. Several of the tutorials that have so far been created cover basic information needs – how to research, how to evaluate information, how to use information ethically, and how to cite information. Notice that the primary question here is “how.” The remainder focus on specific subjects that may be used only by specific groups within the student body, and answer the question “what”, as in “what resources can/should I use?” In the fall of 2004, these included tutorials covering Art, Biology, Chemistry, Humanities, Latin American Studies, Manuscript Research, and Math. Although the resources listed in these tutorials can be both detailed and exhaustive, this type of tutorial addresses majors or fields, rather than specific topics within a field (with the exception perhaps of some of the sections within the Latin American Studies tutorial). They also do more than simply list resources; they instruct students in the use of these resources and the creation of effective search strategies, and may often explain other essential aspects of the research process, such as the avoidance of plagiarism and the appropriate citation style to use for a specific discipline.

Although they are created with the assistance of several different librarians, in order to maintain consistency across tutorials, they each follow the same template. Each tutorial is broken up into sections or chapters, composed of several pages, each

addressing a different aspect of the topic. For example, within a chapter called “Searching,” one page might address Boolean Operators, the next, Keyword Searching. They look the same, and they feel the same, with the exception of the Art tutorial which is set up slightly differently. Their pages can be followed in order, or the student may read only those parts he chooses. The layout includes a menu bar at the top of the page with links to each section, as well as a sidebar that lists what topics are covered in the current section, allowing the student to identify areas of particular research (Figure 1).

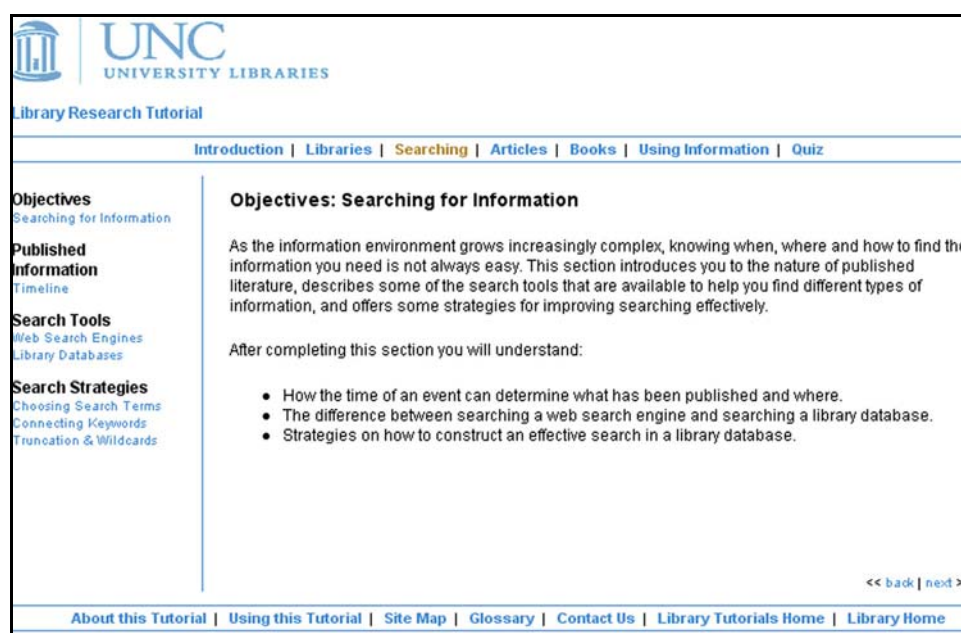


Figure 1

To complement these online tutorials, the library also offers online research guides (these may also be known as subject guides, pathfinders, or in some cases, annotated bibliographies). While similar to the tutorials mentioned above in that they suggest resources, their main purpose is more difficult to identify. Most simply list various sources, in print and electronic forms, in order to provide students with information about resources, rather than to teach a skill. Others, however, include lessons

on searching. Unlike the tutorials they do not all follow the same template, and have been created and updated by various individual librarians, who are not always identified. Like the tutorials, they are also accessed from the main library page, although due to their number, the user must either search for an appropriate guide, or browse the list of guides, as of the fall of 2004 numbering 111. Additionally, they can also be accessed when a library user searches for an electronic journal or database, as there is an option to view the subject guides that also pertain to the search. However, the easiest way to access a subject guide is to use the drop-down list of broad topics (such as *Art & Architecture* or *Business & Economics*) or to do a free-text search on the main subject guide page. There are nearly 115 subjects in the drop down box; in preparation for this study I picked one at random, and compared it to the subject directly beneath it. The first, *Medieval Studies*, gave me a list of five guides to choose among - one being the library's *Introduction to Library Research* tutorial, while others focused on specific aspects of medieval studies such as Christian Iconography. The second subject taken from the drop down list, *Middle Eastern & Islamic World Studies*, gave me no results at all.

Using the search field, which allows a student to search for keywords that describe the research guides, also returned interesting results. Entering "medieval studies" returned the names of nine guides, only three of which overlapped with the subject search results.

The lack of consistency in these results suggests that not only is there some confusion as to how guides are linked via metadata and keywords to the two search functions, the lack of guides associated with some subjects raises the possibility of guides as yet uncreated that might be considered useful.

## Methodology

For the purpose of this study a research guide was defined as any guide listed on the subject guides page ([www.lib.unc.edu/instruct/guides/process\\_all.php](http://www.lib.unc.edu/instruct/guides/process_all.php)), unless one or more of three specific conditions applied. One of these conditions is that it cannot also be found on the library's tutorials page (<http://www.lib.unc.edu/instruct/tutorials.html>). However, if a subject guide *looks* like a tutorial but is not listed on the main library tutorial page, it was considered a research guide. The second condition is that the guide must not be hosted by a server other than the one used by the University Libraries – for example those hosted at <http://www.aging.unc.edu>. The third condition is that the guide must have been created and maintained by the University Libraries. Because the Health Sciences Library is a separate entity from the University Libraries, none of their guides were included.

Students at UNC are encouraged to evaluate resources using the measures of credibility, bias, audience, relevance, currency, and accuracy. Because the guides are hosted on the library website and are authored by professional librarians, it is safe to assume that students would trust that the guides are credible and authoritative, current, relevant and accurate, are aimed at the appropriate audience, and lack bias. However, the inclusion of the name, title, and contact information of the creator of the guide would certainly improve the sense of authority of the guide itself. The title and a short description of each guide provides the student with information relating to the audience

and relevancy of the guide, and to help students ascertain an idea of the currency of each guide a date of last update is included with the title information.

The first phase of the analysis involved collecting data describing the resources listed in each guide. First, a unique program automatically scanned the guides to count the occurrences of call numbers and electronic links. All guides that were hosted by a different server were automatically removed, but the program was not sophisticated enough to be able to count call numbers and links in guides that consisted of more than one page, nor was it able to determine which guides contained more than one page. Therefore, all guides created by departments that used the multiple-page format were removed as well. Of the 111 research guides, only 41 met the criteria for inclusion. Of the excluded 70, 32 were HSL guides, 2 were hosted by UNC's Institute on Aging, and 2 were tutorials. The remaining 34 were all either business/economics or art research guides. As mentioned, these were removed because the majority of guides within these two areas consisted of more than one page. However, in order to include some of these excluded guides within this paper's scope, and to examine other aspects of the subject guides, I also chose to examine a selection of guides listed on the Research Guide (All Research Guides) page at [http://www.lib.unc.edu/guides/process\\_all.php](http://www.lib.unc.edu/guides/process_all.php). The difficulties in completing this initial analysis demonstrate the lack of consistency found in the varied layouts of the guides. Also, it should be noted that the file extension on the All Research Guides page should probably be .html rather than .php.

The second phase of the analysis involved evaluating the research guides individually. A random sample of guides was selected by identifying every third guide. The ten Health Sciences Library guides that fell within the count, as well as one tutorial,

were removed, leaving 25 guides out of a total of 111 subject guides found on the research guide list. Some of these naturally overlapped with the guides partially analyzed by the program used to count resources automatically.

From this list of 25 titles, I assembled the following data about each guide: author; date of last update; number of dead links (or links to electronic resources that are no longer available); number of total links; number of resources offered; and types of resources offered. Some of this information would have been collected already by the program mentioned above; however, in the interests of consistency, I chose to count the resources and links myself in all 25 cases, including both those guides that would have been counted by the program, and those that were not due to format issues. I collected the dead link data as a way of measuring the currency of the guide itself. The count of total resources, as well as the count of hyperlinks, includes each instance a resource was mentioned, so the count does not reflect the number of unique resources. Please see Appendix A for a list of the 25 subject guides and the information assembled about each.

The third part of the analysis centered on search log data from the Fall 2004 academic term. The search log data includes both selections from the drop-down menu and the terms entered into the search field itself. While there are several course-specific guides, these are located elsewhere, and I chose not to look at these. Like the more general subject guides, the course specific guides have been created by individual librarians, and can not be found in one location. While there are several that can be accessed through the Quick Reference page of the library homepage, these are limited to those created by librarians at Davis Library. Various departmental libraries host theirs on their own webpages. This discrepancy in locations is another problem that may need to

be addressed, and future research may need to focus on the benefits and limitations of class guides in comparison to subject guides. Questions such as *how* students use the library website and the system that has created it, and *where* they look in their search for relevant information, may prove to increase the use of all of these guides.

The steps a library patron takes to find relevant resources is an important point to consider. Ultimately, there are a number of different ways a patron can find a single resource. In the case of a subject guide, a student may have been given the URL by an instructor or librarian. This works fine, until he loses the piece of paper it was written on. Perhaps he remembers that it was called *Selective Resources for Research in Sociology* and, having found the research guide search page, he enters that into the search field. One would think that having the name would be all the information he needed, but the search that phrase returns contains every single guide, but not one by that name. Even had he clicked on the *Browse All* link, he still would not find the guide. Now, who is wrong here – the student, or the search? In reality, neither is – that guide simply has a different name on the list of guides than the one at the top of its own page. This is a minor problem, and can be fixed very easily.

But this search also begs the question of how keywords – or metadata - are chosen when describing the guides. Librarians have the options of selecting preset subjects (those included on the drop-down box) as well as typing in their own descriptive keywords. While it may seem excessive to include the full title, care must be taken that appropriate words are used. The words and phrases that students are likely to use must be considered, as well as those words that best reflect the contents of the guide. To this end, I compiled a list of the most frequent searches from Fall 2004. I also compiled a list of

the most frequently occurring words within each of the 41 tutorials that could be effectively be scanned, due to their location and construction, as mentioned previously.

## Findings

One of the first types of information I gathered was the recorded date that each tutorial was last updated, which is information that should change automatically. This information was collected from the description of the tutorial, rather than from the tutorial itself. As I collected this information I was rather surprised at the length of time some of the guides had gone without being updated. As mentioned previously, the prominence with which the date itself is displayed suggests that there is some awareness of the importance associated with currency. Within my sample group of tutorials, the dates of last updates listed on the main tutorial page ranged from November 30<sup>th</sup>, 1999 to February 14<sup>th</sup>, 2005. Forty percent, or ten of the 25, had not been updated within the past 15 months (this data was gathered in February, 2005).

However, this information is most likely incorrect, as the “last updated” information on each individual research guide itself in all 25 cases was different from that displayed on the list of research guides page. According to the dates displayed on each research guide, in all but one case (*Indian and South-East Asian Art*) the date listed on the guide was more recent than that on the list of research guides page, and only one had not been updated in the last 15 months.

In most cases, the date found on the page describing the guide is the only one a student will see; it is certainly the first one. A student considering the *Conservation Information on the Internet* research guide who sees that the guide has not been updated since March 2003 may think that the resources found within the guide are likely to be out

of date. The updated date of January 2005 found on the guide itself is much more comforting to a student who wishes to use resources available on the Internet. The discrepancy among the dates suggests that at the very least some way of updating the information in both locations at the same time is in order. While there is an automatic update function associated with the subject guides, it clearly does not cover updating the information in all locations. There is an automatic system in place for updating the guides as well - the Library Systems department receives prompts if a year has passed without an update, and these prompts are forwarded to the librarian responsible for the guide. If the guide is not updated within two weeks, it is removed from the server.

In the rapidly shifting environment of the Internet, keeping up with changes can be a decidedly difficult task. Keeping the information about the guides up-to-date is not the only aspect of this challenge, as the information within the guides includes not only print and electronic resources but Internet sources as well. For the most part, non-print sources selected for the guides are professional or research oriented, such as sites created by museums, other universities or research institutions, government offices, or e-journal subscriptions or databases paid for by UNC. However, URLs may change and subscriptions may be canceled, and those sites that are not hosted by large institutions may disappear entirely. By counting the number of links offered in each of the 25 guides and the number of these that were incorrect (either because they went to nonexistent pages, to resources that were no longer offered, or to resources that did not match the description in the guide itself) I calculated a percentage of erroneous web addresses for each guide. This percentage was nil in only six of the guides, and ranged up to nearly 18% in one guide. This guide, *Clothing and Dress*, is also the largest guide among those

in my sample with approximately 2250 items, which makes it nearly ten times bigger than the next closest guide and - the sheer size of *Clothing and Dress* alone may account for the high percentage of errors, though in terms of web resources alone, it has fewer than several other guides (see Appendix B).

The average percentage of URL errors among the 25 guides was slightly higher than 5%. The hyperlinks that were counted for both the total URLs and the incorrect URLs did not include internal links – they included only links to external resources such as other UNC research guides or databases, or websites found outside the UNC system. Also not included were HTML coding errors – only links that returned generic server error messages, messages from UNC’s system that a subscription was no longer available, and form messages from host servers that a page was no longer available.

### *Consistency in format*

From preliminary exploration in the UNC guides, and as noted in the literature, it appears that there is very little consistency among guides. One of the purposes of collecting author information, then, is to determine whether each author (or parent institution – such as a particular library, like the Sloane Art Library) has any internal consistency. Other measures of consistency include the total number of resources offered and the types of resources offered.

Consistency of design among the 25 research guides varied both among librarians as well as within the work of a single librarian. The most obvious variation among the guides is that while many consist of one single page, several do not. Two, created by the Sloane Art Library, emulate the tutorial look and feel, but five others also created by the

Art library do not follow the same template. Of the five subject guides maintained by the business/economics librarians, four are composed of a single page, and one consists of multiple pages. These differences in format are quite large, and can be confusing to students who expect to see the same layout (See Appendix C for examples of the various layouts).

Size is another consideration. As mentioned earlier, *Clothing and Dress* contains approximately 2250 resources. The smallest guide contains only 9. While quality is of more importance in situations like this than quantity, having 2250 resources on one single page can be daunting to see, even if, as this guide has, there is a table of contents. This guide is large enough that it might make a suitable tutorial instead. In comparison, the average number of resources of the 25 guides is 161, or 70 if *Clothing and Dress* is removed. That is quite a large difference. Consistency in format should be extended to the general layout of the subject guides, and guidelines should be developed to create a format acceptable to all those who are involved in creating a research guide

Another key variation is the table of contents. Of the twenty five I compared, 14 had Tables of Contents, the rest did not. Of these, while most Tables of Contents divided the guide by type of resource, such as dictionaries and encyclopedias, electronic databases, and websites, several chose to create sections that reflected search strategies or subject focus. Again, even tutorials supported by the same library failed to follow the same divisions. As mentioned earlier, two of the seven art guides followed the tutorial template, where the index page lists the main topics located within the guide. These were divided not only by resource type, but also by subject focus. Four more had Tables of

Contents that divided the resources by type. The seventh guide did not have a Table of Contents.

With the exception of two art guides, each of the twenty-five had the standard library banner and set of links along the top of the page, and a footer that included the URL and the last updated date. This is the extent of the design features shared by all 25 guides (the two art guides followed a layout that more closely follows the tutorial layout, featuring a library banner but no links, and a similar footer). Even the footer varied somewhat, with some guides including a link to a specific “Ask a Librarian” form, others linking to a generic reference form, and still others (those two art guides) including no reference link at all. This makes sense, to some extent, as the guides reflect an expertise associated with a particular library, and it is appropriate that questions relating to art topics go to an art librarian, and others to go to subject specialists located elsewhere. But the design of the guides can still be consistent if each guide has the same layout for offering more assistance. For example, in some, but not all cases, the guides included a second hyperlink, embedded in the second half of the phrase “Can’t Find What You Are Looking For? How Can We Help You?” above the footer that also links to the “how can we help” page (<http://www.lib.unc.edu/reference/howhelp.html>). This is a design feature that should probably be standard in all the guides so that library users will know where to look for extra help, in addition to the email form linked directly to the library or librarian responsible for the guide.

*Search by Subject*

As mentioned earlier, library users may search for specific research guides by subject, by using the drop-down list on the search page. There are 115 topics in all, though several of these are umbrella terms - for example, if a user were to select “Science and Technology” he would then be directed to a screen that asks him to narrow his search by selecting a sub-topic. Each of these sub-topics is also included in the drop-down box.

But of the 115 subjects from which a user may choose, four have no research guides listed at all. Ten more have only the *Introduction to Library Research* tutorial (see Appendices D and E for the names of these guides). And several of the other subjects do not specifically address the topic suggested by the choice selected in the list of subject topics. For example, selecting “Folklore” retrieves the *Introduction to Library Research* tutorial and *Clothing and Dress: Sources and Tools for Research*. While these are valuable resources, they may not be specific enough to help the user find tools that will assist him in his search for information. And the *Clothing and Dress* tutorial is so extensive that finding the appropriate resources might be more time-consuming than a simple catalog search.

As any searcher knows, it can be frustrating to try to search the subject guides by a specific subject and have no results. That the subject is listed and yet there are no results is a problem that needs to be addressed. Although there are e-journal and database suggestions through the tabs at the top of the page, users may not notice the tabs themselves, or they may be looking specifically for resources in the library catalog or on the web, which are needs only the research guide can address. While a catalog search may bring results, it is the research guide that points out the best resources, aiding the user in his research. Although removing the subjects that do not have guides from the list

is most likely not possible, as it is so closely linked to the searches for databases and e-journals, a solution to this problem would be to create research guides specific to the subjects. The creation of these guides is, however, up to those librarians who are responsible for the subjects the guides would fall into.

Along similar lines, there doesn't seem to be a set protocol for which research guides should belong to which subject, and how decisions like this should be made. While overlap is expected and even necessary, it is odd that the *Introduction to Library Research* tutorial should be included in the results of many of the subject searches, but not all. It is especially odd that the "General and Multidisciplinary" subject should be completely devoid of results, when this might be the most appropriate subject to include the *Library Research* tutorial. Because it is the responsibility of the librarian who created the subject guide to enter the metadata regarding the guide, how it is categorized is up to each individual and her opinions. For the sake of efficiency, effectiveness, and consistency, either a set of guidelines should be established, or one librarian should have the responsibility of reviewing each guide and selecting the subjects in which it should be included.

### *Keyword Searches*

This problem is further complicated when it comes to selecting keywords by which guides may be searched. Without a set of guidelines to follow, it is up often up to the individual librarian to choose which words or phrases to include. For example, the guide for Afghanistan Cultural Heritage includes the keywords *Afghanistan*, *architecture*, *culture*, *art*, *heritage*, *museums*, and *sites*, but not *architectural* or even *Middle East*,

*Middle Eastern* or any form of *Islam*, even though the guide is included under the subject *Middle Eastern and Islamic World Studies*. A subject search using “Folklore” returns the results mentioned above, but the same search using the keyword *folklore* returns no guides at all.

Another small problem is that when using a keyword search strategy, the user must manually erase the default phrase within the search field, as it does not automatically disappear when the cursor is set there.

### *User Searches*

In the Fall of 2004, there were several thousand searches of the subject guides. Based on how precise some of these searches are (*bipolar disorder, cloning*), and how vague (*children, country*) it's clear that some instructions are needed on the search page. Also, as many searches incorporated commas, Boolean operators, and quotation marks or truncation symbols, it might be helpful to include information about what strategies to use. These instructions need only be quite brief, directing students to search for a subject rather than a topic (i.e. *psychology* rather than the specific disorder or *citing* rather than Chicago Manual or Chicago style). A link to the search tips page, such as that found on the catalog search screen, might suffice to address the truncation, Boolean, and punctuation problems.

Some of the searches completed during the time this paper covers included several that would best be fulfilled elsewhere, such as the catalog (*the da vinci code*), electronic databases (*academic search elite, cq researcher*), or even reserves or the general UNC search field (*carolina psychological services and suicide* ). Helpful

instructions might therefore include information explaining when a library user might want to use a subject guide, and when they might want to search elsewhere. Although users are able to search solely within the library website, that function is not available from the research guides page, and on the library home page it is located at the bottom of the site, and most users would have to scroll down to see it. It might benefit the library users to have this search function located more prominently. Directions similar to the ones located there (that it is not the catalog, and only searches web pages) would no doubt be useful on the guides search page.

The most common search was *short story criticism*, with a count of 52. There is one guide that focuses on this topic. Seventeen were returned. Some, like *Poetry Reviews and Criticism* are understandable (if unhelpful) results. Others, such as *Selected Resources for Research in Company Backgrounds* or *Selected Resources for Research in Consumer Price Index* seem to have no connection at all to the topic at hand. Other common searches included *iconography* (46) and *symbols* (44), *history* (42), *statistics* (38), *sociology* (37), and *ebm* (36). The results for both *iconography* and *symbols* are quite good, returning the same two guides, both dealing with aspects of iconography. Predictably, broad subjects such as history and statistics returned an array of relevant guides. *Sociology* returned only one, though there are certainly several other guides that might be considered helpful to a student searching for sociological resources. Interesting results also centered on *ebm*. This search was complemented by searches on *evidence-based medicine* (26), *evidence-based nursing* (14), and *evidence-based* (12). *Ebm* returned four guides, and *evidence-based nursing* returned three, but *evidence-based medicine* returned seven, and *evidence-based* returned none at all. The discrepancy

among these four searches most likely is due to differences in the keywords associated with each, but it is interesting to note just how many searchers used the shortcut of including only the first part of the phrase (*evidence-based*). If this is a common choice among library patrons, it might be something the guides should take into account. It is interesting to note, too, that searches that include hyphenated words show up as one word on the results page.

## Discussion

It is not enough for a library to merely provide information. Part of the very nature of a library is to instruct and to increase research skills among their patrons. This is evident in the way Instructional Services librarians reach out to new students and in the creation of online resources for students to use. But having once created a new resource, it is still the responsibility of the library system to maintain it and to make sure that it is not an unnecessary service on which they are wasting time and energy. Keeping usage statistics is a step in the right direction. Now, however, it is time to look at those statistics and to come to some definitive conclusions about how best to serve UNC's student population. Creating a consistent look and a uniform format for content for current and future research guides is a simple though perhaps initially time consuming step. Creating a systematic set of rules, guidelines, or timelines for maintaining and updating the guides is a necessary corollary. But equally important is asking students what they need or want when it comes to subject guides. Learning how people use the library website and how they search for guides is necessary if these guides are going to be used in an effective manner, because if ease of use improves, so (eventually) will amount of use. While the UNC research guides are as valuable a resource as the tutorials, lack of consistency may be causing the research guides to fall short of their potential. Based on the literature on this topic alone, it is clear that an improvement in consistency would at the very least make the guides more accessible to users.

A central library like UNC's Davis Library, surrounded by departmental libraries that can focus on specific disciplines such as Art or Music works in the bricks and mortar world. Students who know that they need help in a particular area can take advantage of the librarians located within the art, business, or chemistry libraries. Online, the knowledge of these librarians can be found in their guides and their presence on the libraries' individual homepages. This presence is helpful when it comes to information concerning specifics like hours, locations, or services, but less so when students, particularly undergraduates who generally have multidisciplinary projects, have to search in several areas to find what they need. The beauty of the Internet is that information can now be located centrally. All the guides can be found together, and this should be used to the fullest advantage to attract student interest, supported by guides that follow the same format, but with the names of librarians who can help with further research prominently displayed.

Students have a fear of being confronted with too much information (Kennedy and Cole 560). With 111 subject guides, searches that return "too many" guides is not too much of a problem. But as more guides are added to those that already exist, without improved control over keywords, or some instruction as to how to search for guides, as well as recognizable guidelines for how to create or use a guide, students may use strategies that don't improve their search results, such as taking the first available resource rather than the best. Which is probably one of the best reasons for creating a guide in the first place.

While this paper has focused specifically on the research guides created by UNC University libraries, my findings might be considered useful to other academic libraries,

in that they may want to consider the following. If librarians expect their students to evaluate information based on certain criteria such as currency, relevancy, and authority, resources provided by libraries should be held to the same standards. The resources created for students should meet the criteria they are asked to look for. If a guide has two dates to consider for when it was last updated, the student cannot be expected to know which one is correct. Patrons should be able to not only “Ask a Librarian” for more help, but if they have a specific question about a resource on a guide, they should be able to see just who created the guide, and what their qualifications are as well. Ideally, guides would be created with specific audiences in mind (lower-level undergraduates, or graduate students) but in reality they must appeal to a broad audience. However, it may be possible to identify specific resources within a tutorial as being more appropriate to specific groups.

As for the matter of format, consistency is key in good web design. This refers both to format as well as to content. While flexibility is necessary when considering the various topics and resources that will be displayed in a research guide, it is also important to consider the audience, and how they learn. With the proper focus on how students search and how patrons in general use the library website, there is ample opportunity to improve the services the library provides.

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**Appendix A**

<b>Title</b>	<b>Author Info.</b>	<b>Table of Contents</b>	<b>Pages</b>
Afghanistan Cultural Heritage	Yes; no email	Yes	1
Anthropology Resources	Yes; email	No	1
Banking Resources	Yes; email	No	1
Celtic Cultures	No; no email	Yes	1
Clothing and Dress: Sources and Tools for Research	Yes; email	Yes	1
Comparative Literature	Yes; email	Yes	1
Conservation Information on the Internet	No; no email	No	1
Financial Statements: Basic Resources	Yes; email	No	1
Finding Country Economic and Financial Information	No; no email	No	1
Finding Periodical Articles for Art and Architecture	No; no email	Yes	1
Finding Research on Endangered Species	Yes; email	Yes	1
Guide to Resources on Latino Art	No; no email	Yes	11
Indian and South-East Asian Art	Yes; email	Yes	11
International Relations and Studies and Regional Studies	Yes; email	No	1
Islamic Art and Architecture	No; no email	Yes	1
Mathematics	Yes; email	No	1
Newspapers in the UNC-CH Libraries & Sources for Newspaper Research	Yes; email	Yes	1
Personal Finance Web Resources	Yes; email	Yes	5
Poetry Reviews and Criticism	Yes; email	Yes	1
Psychology	Yes; email	No	1
Researching and Selecting a Study Abroad System	Yes; email	Yes	1
Selected Resources for Research in Company Backgrounds	Yes; email	No	1
Selected Resources for Research in Exercise and Sport Science	Yes; email	Yes	1
Social Work	Yes; email	No	1
Statistics – Selected Resources for Research in the Academic Discipline	Yes; email	No	1


**Appendix B**

<b>Title</b>	<b>Total URLs</b>	<b>Incorrect URLs</b>	<b>% Incorrect URLs</b>	<b>Total Resources</b>
Afghanistan Cultural Heritage	42	3	7.14	112
Anthropology Resources	34	3	8.82	118
Banking Resources	21	2	9.52	23
Celtic Cultures	34	1	2.94	118
Clothing and Dress: Sources and Tools for Research	39	7	17.95	2250
Comparative Literature	24	1	4.17	95
Conservation Information on the Internet	16	1	6.25	16
Financial Statements: Basic Resources	8	0	0	18
Finding County Economic and Financial Information	32	1	3.13	33
Finding Periodical Articles for Art and Architecture	47	3	6.38	63
Finding Research on Endangered Species	7	0	0	11
Guide to Resources on Latino Art	29	0	0	72
Indian and South-East Asian Art	34	1	2.94	100
International Relations and Studies and Regional Studies	75	2	2.67	235
Islamic Art and Architecture	46	3	6.52	109
Mathematics	35	0	0	44
Newspapers in the UNC-CH Libraries & Sources for Newspaper Research	59	6	10.17	166
Personal Finance Web Resources	40	7	17.5	40
Poetry Reviews and Criticism	30	2	6.67	50
Psychology	17	1	5.88	145
Researching and Selecting a Study Abroad System	25	2	8.00	84
Selected Resources for Research in Company Backgrounds	6	0	0	9
Selected Resources for Research in Exercise and Sport Science	59	3	5.08	143
Social Work	24	1	4.17	126
Statistics – Selected Resources for Research in the Academic Discipline	18	0	0	26

## Appendix C

Please note all headers and footers have been removed. The screen captures reflect only the content and format of the individual research guides.

JOSEPH CURTIS SLOANE  
ART LIBRARY



UNIVERSITY OF NORTH CAROLINA  
CHAPEL HILL

## Afghanistan Cultural Heritage

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[Museum Directories and Topographical Guides](#)  
[Museum Catalogs/Sites](#)  
[Web Sites: Gateways, Art and Cultural Heritage Sites](#)  
[Selected Bibliography](#)  
   [Encyclopedias](#)  
   [Monographs](#)  
   [Selected Bibliographies for Afghanistan](#)  
   [Other Bibliographies, Indexes and Abstracts](#)  
   [Bibliographies on the Internet](#)  
   [Selected Art Journals](#)  
   [Selected Histories, Travel Accounts, and Early Works](#)

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More than one scholar has called Afghanistan the "crossroads of the world" given its location on the Silk Route, with links to East and West. This short guide aims to provide an introduction\* to resources for the study of Afghanistan's rich heritage from prehistoric to modern, representing many cultures, religions, and dynasties.

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**Museum Directories and Topographical Guides**

Figure 2 Afghanistan Cultural Heritage

## R. B. House Undergraduate Library

### Researching and Selecting a Study Abroad Destination

### Contents

- [Regional/National Reference Sources](#)
- [Travel Guides](#)
- [Foreign Language Instruction](#)
- [Culture](#)
- [Geography and Maps](#)
- [General Reference Books on Study Abroad Opportunities](#)
- [Study Abroad Programs](#)
- [Finding Funding](#)
- [Bibliography and Browsing Hints](#)

Figure 3 Study Abroad

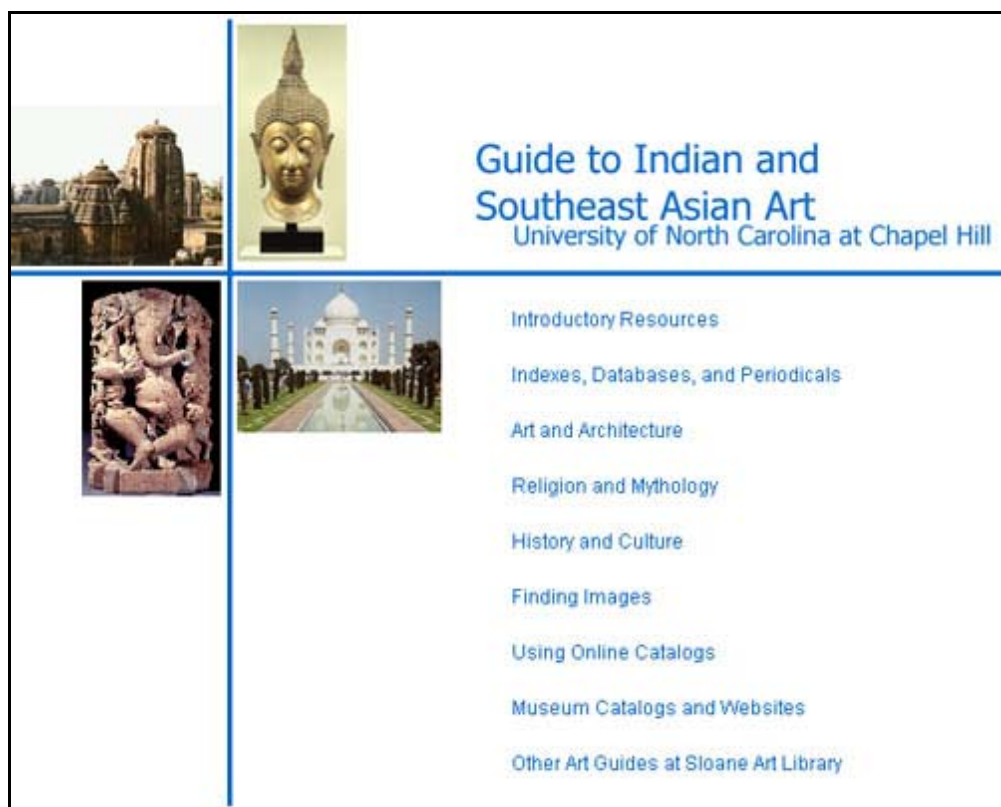


Figure 4 Indian and Southeast Asian Art



Figure 5 Anthropology



Figure 6 Personal Finance Web Resources



Figure 7 Psychology

**Appendix D**

<b>Subject Selections without Research Guides</b>
Cytology
General & Multidisciplinary
Physiology
Reference

**Appendix E**

<b>Subject Selections listing only <i>Introduction to Library Research</i></b>
Agriculture
Classics
Energy
Gay & Lesbian Studies
Geology
German
Marine Sciences
Music
Native American Studies
Transportation