This study seeks to better understand how online tutorials are being incorporated into instruction efforts at academic libraries. University of North Carolina at Chapel Hill librarians and the tutorials they created are grouped by the degree to which the librarians are reliant on the tutorials for in-class instruction, referred to here as “expanded use.” The results of this research identified the following factors that may play a role in determining the level of expanded use of a tutorial: the relationship between the intended audience of the tutorial to the actual audience in the classroom, the relationship between the needs filled by the tutorial and the actual needs of the patrons, the degree to which visual elements are incorporated into the tutorial, the degree to which tutorials are recognized as marketing tools, the involvement of faculty in promoting tutorials, and the level of demand for library instruction.

Headings:

Computer-Assisted Instruction
College and University Libraries
User Training
YOU HAVE A TUTORIAL, NOW WHAT?: AN ANALYSIS OF FACTORS CONTRIBUTING TO AN EXPANDED USE OF ONLINE RESEARCH TUTORIALS BY ACADEMIC LIBRARIANS

by
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A Master’s paper submitted to the faculty of the School of Information and Library Science of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements for the degree of Master of Science in Library Science.

Chapel Hill, North Carolina
April 2004

Approved by

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INTRODUCTION

Today’s academic librarians are continually plagued with shrinking resources due to budget cuts, while at the same time they are also expected to provide more and improved services to their patrons. In many, if not most, campuses in the United States, librarians face this challenge by substituting or supplementing services traditionally provided by library professionals with technology. This trend is particularly prevalent in the area of library instruction. Increasingly, faculty and instructors rely on librarians to teach their students how to find and utilize library resources. To meet this demand in spite of shortages of staff, time, and financial resources, librarians have come to rely on online tutorials to complement, and in some cases completely replace, in-class instruction.

Online tutorials fall under the rubric “computer assisted instruction.” The term originated in 1971 when Alan B. Salisbury defined it as “a man-machine interaction in which the teaching function is accomplished by a computer system without intervention by a human instructor.”
Both training material and instructional logic are stored in computer memory.\textsuperscript{1} For many librarians today, this definition would probably not resemble their idea of the role of online tutorials. While it is the case that some librarians do create tutorials for the purpose of replacing face-to-face instruction, especially in the case of distance education students, many librarians view tutorials as a supplement to their in-class teaching.

The purpose of this study is not to argue for or against the use of tutorials. This study does, however, recognize the widespread use of these tools in academic libraries and seeks to better understand exactly how they are being incorporated into instruction efforts. Specifically, this investigation examines how the librarians at the University of North Carolina at Chapel Hill who created online library research tutorials have incorporated them into their instruction programs. Furthermore, this study identifies factors that may indicate why some librarians rely heavily on tutorials for instructional purposes while other librarians barely make use of them at all. These factors, then, may form the basis of future research in which the identified factors can be controlled in order to find causal relationships. By discovering which factors are associated with certain
levels of tutorial use, librarians can design tutorials that may be integrated most effectively to fill the instructional needs of their patrons.
LITERATURE REVIEW

The library and education literature discuss tutorials in three main contexts. First, authors describe the theoretical framework that forms the basis of tutorial design and implementation, with an emphasis on pedagogical principles. Second, creators recount the design, implementation, and effectiveness of their tutorial project. Third, many studies compare the learning outcomes of online tutorials with in-class instruction. These three article types are discussed in more detail below.

As the primary function of any tutorial is educating users, the pedagogical theory supporting tutorials is of utmost importance. Because of this, numerous studies have been done that suggest ways to design online tutorials based on sound pedagogical theory. One such study undertaken by Nancy H. Dewald involves the application of pedagogical principles to existing online instructional tools. Dewald further identifies elements that contribute to an effective tutorial while accounting for variables such as learner motivation, tutorial organization, and interactivity. Dewald concludes that tutorials should promote an active learning environment in which users are able to choose their own path through the
information presented. As Dewald describes, “Web elements such as the hypertext environment, frames, CGI-scripting, and newer technologies allow librarians to go beyond simple presentation of information, allowing them to create Web-based instruction that allows students to explore as they prefer, develop their own understanding of concepts and skills, and apply learning in realistic settings. The unique capabilities of the Web allow librarians to move beyond traditional pedagogical techniques to active, creative learning.”

Jerilyn Veldof and Karen Beavers’ study on mental models is another example of applying theory to the evaluation of online tutorials. Veldof and Beavers contrast students’ mental models with those of librarians and find considerable differences between the two perspectives. As the authors state, “While students tend to view library research as a means to an end, librarians tend to teach research as if it is an end to itself.” They conclude that librarians would better serve their students by creating tutorials that reflect the students’ mental models, rather than their own, through such means as integrating tutorials into contexts that are already familiar to students.
While interpreting and utilizing theory to bolster the foundations of tutorials is of primary importance to librarians, so too are their practical applications. For this reason, a large portion of literature relating to tutorials consists of educators sharing their experiences of creating and implementing these tools with other professionals. Typically, authors describe their institution and users, the need for the tutorial, the rationale driving the project, struggles and successes in bringing the tutorial to fruition, and a summary of feedback.

Librarian Bruce G. Kocour wrote one such article in which he described the creation of a tutorial at Carson-Newman College and its role in English composition courses there. In the article, Kocour notes the faculty’s frustrations with the lack of class time they can devote to library instruction. Furthermore, as Kocour describes, “Many inexperienced college students seem to believe that any information they could ever possibly need can be found on the Internet. To take advantage of this misconceived infatuation with the Net while concurrently attempting to show students that there are other and often better sources of information, a Web-based approach to library instruction was developed...” The tutorial that resulted in response to
these issues includes elements such as a virtual tour, database searching techniques, and other guides. Students at Carson-Newman are now required to complete the tutorial prior to any instruction session. Kocour reports positive feedback on the tutorial from both faculty and students, and also cites the benefits shared by non-traditional and international students.

These kinds of articles provide insight into the potential uses to which tutorials are applied. Patricia Fravel Vander Meer contacted numerous library instruction coordinators, studied relevant literature, and examined 100 academic web pages to discover creative uses of tutorials. She found numerous variations on how librarians utilize and interpret tutorials. For instance, Vander Meer notes that librarians at Bucknell, University of California at Santa Cruz, and Wake Forest University employ a frame structure that allows students to conduct live searches with the instructions visible in an adjacent frame. She also observed that some librarians created tutorials arranged by skill level; a number of tutorials contain small modules that can be used independently, while other tutorials have quizzes that can be sent directly to professors.

The trend toward online instruction formats has reasonably concerned some educators who fear that students
may suffer from the lack of the face-to-face interaction that occurs in a classroom environment. The literature does not come to a consensus on this point, but there is strong evidence to suggest that students who use online tutorials have the same, if not improved, learning outcomes as those who receive in-class instruction. Some students, however, have personal preferences over which format they like best.

Many articles in the library literature point to the benefits of online tutorials. Whether applied in conjunction with classes or instead of them, librarians appear to have good reason to make use of them. Tutorials can save time and money for librarians confronted with daunting class loads while providing broad access to instructional materials for patrons regardless of their geographic location. One recent study conducted by librarians at the State University of New York (SUNY) at Oswego confirms that students learn as much from a tutorial as traditional in-class instruction based on pre- and posttests among English 102 students. Furthermore, students are satisfied with the online instruction and consider it a valuable addition to their courses. In a similar study conducted by Lucy Holman on the University of North Carolina at Chapel Hill’s English 11 students, Holman
found that there was no significant difference on students’ post-test scores between those who completed an in-class bibliographic instruction session and those who completed an online tutorial. Furthermore, some students reported that they preferred the pace of the online tutorial over the pace in the classroom.

Despite reports of equal learning outcomes, not all librarians are proponents of replacing classes with tutorials. A study conducted by Anna M. Van Scoyoc among first-year college students showed that those who participated in traditional, in-class bibliographic instruction sessions revealed significantly less library anxiety than those who completed an online tutorial. Van Scoyoc argues, “Computer-assisted instruction should not completely replace students’ opportunities to experience the library, as well as make contact with a librarian. These experiences and contacts can have a great effect on students and their future use and success with the academic library.” For Van Scoyoc and others like her, the in-class experience offers a valuable socializing function that tutorials cannot match.

The effectiveness of tutorials is an important consideration to be made as librarians attempt to find their appropriate place within their instruction programs.
Interestingly, even at schools such as Deakin University in Australia where students were shown to have learned less using tutorials than they did in class, librarians still chose to continue using tutorials for basic instruction.\textsuperscript{15} Clearly, tutorials are increasingly relied upon but the exact form of implementation depends heavily on the circumstances faced by librarians at individual schools.

Thus far, the library literature has addressed the uses of tutorials from both the librarian and student perspectives. However, none of the studies have questioned, in-depth, the motivations behind librarians’ application of tutorials in their instruction programs. We can certainly see that librarians have applied tutorials in a number of different capacities and many authors point to shrinking budgets, too little class time, and small staffs as the cause. I contend that there are many shades of tutorial use and that the exact form that use takes depends on numerous factors. These factors must be understood in order to be manipulated for the maximum control over how the tutorial is applied. This research attempts to take a step in the direction of filling this void in the existing literature.
METHODOLOGY

Research Question and Operational Definitions

The question to be answered by this study is: to what extent do academic librarians incorporate online tutorials into their instruction efforts and what factors influence expanded use? For the purposes of this research, “expanded use” means the degree to which the tutorials are an integral part of the instruction program. Usually, a high level of expanded use entails the use of the tutorial in the classroom setting.

Research Method

This investigation focuses exclusively on tutorials created by librarians at UNC-Chapel Hill. The tutorials linked to the main library homepage\textsuperscript{16} were reviewed along with the credits for each tutorial. Those librarians cited on the credit page as having a role in the creation of the tutorial and who also teach classes were selected to be asked to participate in an interview\textsuperscript{17} (see Interview Request Letter, Appendix 1). All librarians who fit these two criteria agreed to an interview. In total, ten librarians were interviewed and asked questions regarding their instruction program and the relationship of their tutorial to that program (see Interview Questions, Appendix
2). The following tutorials constituted the subjects of research:

- **ARTIFAQ** (regarding art research); One librarian interviewed
- **Citing Information**; One librarian interviewed
- **Finding Health Information: A Path Through the Maze**; One librarian interviewed
- **Humanities Research Tutorial**; Two librarians interviewed
- **Online Legal Research Tutorial**; One librarian interviewed
- **Introduction to Library Research**; Three librarians interviewed
- **Manuscripts Research Tutorial**; One librarian interviewed

In some cases, the librarians interviewed had played a role in more than one tutorial. In these instances, librarians were asked to focus primarily either on the one linked to on the main library page or the tutorial geared toward serving the needs of the English composition students since they demand a great deal of library instruction at UNC.

**Evaluation**
After conducting the interviews, the librarians were grouped in terms of their tutorials into one of three categories, or groups:

- **Group One:** Librarians made the tutorial available online to patrons. The librarian may refer patrons to it on occasion but it is not a significant part of the instruction program.

- **Group Two:** The librarian made the tutorial a significant part of the instruction program, particularly as a supplement to in-class teaching.

- **Group Three:** The librarian uses the tutorial as a significant supplement to in-class teaching but is distinguished from those in Group Two because the librarian relies on the tutorial heavily for in-class instruction. Without the tutorial, in-class instruction would have to be significantly modified.

Once the librarians and the tutorials they are associated with were assigned to one of these groups, the commonalities and difference they share were examined and factors were elucidated. In this paper, it is not assumed that tutorial use by librarians in one group is preferred to that of another, but rather those librarians in Group Two exhibit a higher degree of expanded use than those in Group One and so on. This paper attempts to draw out
factors that librarians can manipulate so that they may move between groups as desired to best suit their purposes. In other words, a librarian whose tutorial use fits into Group One but who wants her tutorial use to resemble that of a librarian in Group Three would have to adjust the factors discovered in order to move into a different level of expanded use.

Scope of Study

The results of this study cannot be generalized as they pertain to a small group of librarians at one academic library. However, it is hoped that the factors uncovered through this research will be tested at other institutions in order to determine if they also pertain to tutorials at other libraries. If so, librarians can develop an improved strategy for creating tutorials so that they are designed to reach the appropriate level of use, thereby maximizing the return on the investment of time and resources devoted to making the tutorial.
BACKGROUND INFORMATION

Instruction at UNC-Chapel Hill

Classroom instruction at UNC-Chapel Hill can vary widely throughout the University. In this study, all librarians interviewed except two teach classes for the English composition courses known as English 10, 11, and 12. Every incoming student must test into one of these English classes, although a number of students test out of the composition courses completely. The classes are led by teaching fellows who are graduate students in the UNC English program.

The lesson plan is divided into units, and these units require the completion of a research project. In order to complete these assignments, the teaching fellows bring their students to the library for bibliographic instruction sessions. Oftentimes, due to the high volume of classes requested, librarians rely on the assistance of library school students to help teach the classes. For many students, this is their first introduction to the library and using library resources and services.

Of course, not all library instruction classes are taught for English composition students. Librarians also teach more advanced research skills to upper-level
undergraduates and graduate students. Two librarians interviewed for this study do not teach English classes at all. The law librarian made no mention of teaching such classes and the Head of Public Services in the Manuscripts Department teaches classes only as requested by certain faculty. However, because the English program has exerted such a strong influence over instruction, the program figures prominently in this study.

**Characteristics of the Tutorials**

The tutorials that are currently in use at UNC-Chapel Hill began to take their shape in the year 2000. Before that time, there was a general online library research tutorial, but it was laden with technical and design problems. The tutorial was completely linear in structure so that one would have to progress through it in a particular order. If a student had to leave the tutorial or if the session was interrupted in any way, the student would have to proceed through it again from the beginning. Also, the original tutorial had a lot of Flash elements, which took a relatively long time for computers to load.

In 2000, a new Coordinator of Instructional Services was hired and she was charged with redesigning the tutorial. The result of her efforts is the present model
of the Academic Affairs Library tutorials. They all share the same template and similar interactive elements. They are arranged by modules and each module has a number of subsections so that the structure is both modular and granular in form. Students can pick and choose which sections they need to review and there is no predetermined order through which they must progress. Many sections include “quick review questions” that consist of multiple choice or true/false questions that provide immediate feedback. At the end of the tutorials, there is a quiz. Students must sign into the quiz and when they are done, a certificate is provided as evidence that student was successful in completing the lessons.

Two of the tutorials considered in this study vary from the model described above, namely the Finding Health Information and the Online Legal Research tutorials. These tutorials fall outside of the purview of the Academic Affairs Library and so their design is a product of the Health Science and Law librarians’ vision. Despite this, the two tutorials bear similarities to the other tutorials. They both have a modular structure and there is a quiz available. The Finding Health Information tutorial also employs audio clips of librarians giving extended explanations of various concepts and techniques.
Generally speaking, in the case of the Academic Affairs Library tutorials, a faculty member requests that the Coordinator of Instructional Services create a tutorial on a particular topic or subject matter. The Coordinator then contacts the appropriate subject specialist to write the content of the tutorial. In most cases, the content is delivered to the Coordinator and her team of instruction librarians who electronically code the content and organize it within the template. In a number of instances, librarians themselves perceive a need and create a tutorial to fill that gap (ex. ARTIFAQ), while other librarians arrange to have the HTML coding done in-house (ex. Manuscripts Research Tutorial). In any case, the instruction librarian team maintains the tutorials on the Academic Affairs Library’s web space.
FINDINGS

Levels of Expanded Use: The Groups

The following table shows the groups into which the librarians were placed based on their tutorial use. Note that librarians are identified by the tutorials they created and use:

| Group 1 | • Citing Information Tutorial  
          • Humanities Research Tutorial  
          • Online Legal Research Tutorial |
|---------|---------------------------------------------------------------------|
| Group 2 | • Introduction to Library Research  
          • Manuscripts Research Tutorial |
| Group 3 | • ARTIFAQ  
          • Finding Health Information: A Path Through the Maze |

Significant Findings: Group One

All of the librarians with tutorials in Group One reported that they used their tutorials very rarely. Their low use pertains to both in-class instruction and any out-of-class instruction they do, such as assisting people at the reference desk. All librarians said that they will sometimes refer patrons and faculty to the tutorial. In the case of the Humanities Research Tutorial, one librarian frequently included a link to the tutorial on her class handouts. No one in this group reported knowledge of faculty support of any kind before, during, or after creation of the tutorial.
Both librarians involved in the creation of the Humanities Research Tutorial stated that, because the students in their classes are usually working on assignments with very narrow topics, they prefer to create customized handouts and web guides rather than rely on the tutorial. They pointed out that the tutorial is not suited to doing live demonstrations of the catalog or databases, it is not easily customizable, and there is usually not enough class time with which to introduce it. One librarian noted that, in one of her classes, the assignment concerned fairy tales and a guide tailored to appropriate resources was required. She also said that because the tutorial is a general overview, it is not helpful in classes when she needs to demonstrate the details of using a particular database, further noting that it is too difficult to go into sufficient detail in the tutorial without the presentation becoming overly complicated. She said she would use the tutorial more if it were more focused and directed toward undergraduates.

The law librarian involved with the Online Legal Research Tutorial did not mention any particular shortcomings of tutorial’s content. Rather, he simply does not use it due in large part to the fact that the tutorial is not designed for law students, but rather undergraduates
and students majoring in other disciplines who have no other opportunities to learn about legal research. He noted that there is a mandatory legal research class for first-year law students but that the library has no involvement with that class.

The librarian who helped create the Citing Information tutorial noted that his tutorial is not related to a particular class topic and that the content, being technical in nature, is not well-suited for demonstration in class. He believes that the subject matter is best suited to the online environment where students can refer to it as they are writing the citations for their papers. He did note that he would use the tutorial in class if an instructor requested that he cover citation styles.

**Significant Findings: Group Two**

All of the librarians in this group were keenly aware of the value of their tutorials as marketing tools for the library and their instruction program. As one librarian described it, the tutorials are a way to show teaching fellows and faculty that the library is aware of their needs and can serve as a resource for fulfilling them. One example she pointed out is the inclusion of copyright and plagiarism topics in the Introduction to Library Research Tutorial since they are a subject of great focus on campus
right now. Another respondent described this as getting a “foot in the door” so that librarians have something to approach faculty with and demonstrate that the library can create a tutorial for them on any topic they need. These librarians were also conscious of the needs of distance education students who have no access to library instruction other than through the tutorials.

The librarians in this group do not regard marketing passively; rather, they go to great lengths to promote the tutorials actively. The instruction librarians mention the Introduction to Library Research in brochures; they present it when they speak to new teaching fellows; and they mention it when they send letters out to incoming faculty. The librarian speaking for the Manuscripts Research Tutorial described herself as a sort of missionary charged with fostering a love of primary sources among those in the campus community and beyond. She often encourages students to use it when she is invited to teach a class.

While the librarians themselves devote a great deal of attention to marketing the tutorials, it seems that most of the faculty and teaching fellows are still not getting the message about tutorials. They seem to forget about the tools quickly and do not effectively disseminate knowledge of their existence to their students. One instruction
librarian meets with teaching fellows every semester at their first meeting and gives them a handout with the tutorials’ URL’s, but despite this, the fellows will later express surprise that the library has such tutorials.

All three of the librarians who spoke about the Introduction to Library Research agreed that the tutorial was never designed to replace face-to-face instruction and they do not have any desire to do so. For them, the tutorial is strictly a supplement to the classroom teaching that they do. As one described it, the tutorial puts everyone on an even playing field so that all students have access to a certain level of knowledge about the library. One respondent did concede that, if students complete the tutorial prior to a class, the classes run much more smoothly, the students are more engaged, and more advanced skills can be taught. Occasionally, she will use pieces of the tutorial in class, such as a checklist for evaluating web sites.

In the case of the Manuscripts Research Tutorial, the librarian acknowledged the tool’s importance as a supplement. She noted that the tutorial goes into much more depth than is possible in class. In contrast with the Introduction to Library Research, this respondent would like to bring the tutorial into the class as part of her
lesson. The only barrier to doing so is the fact that faculty do not allow her enough time. Faculty often only allot her a small portion of a fifty-minute class.

These two tutorials also share another commonality. Namely, the topics they address are not subject-specific like the Humanities Research Tutorial or the ARTIFaq.

**Significant Findings: Group Three**

The librarians in Group Three exhibit many of the same behaviors as those in Group Two, but their tutorials are much more closely related to the assignments that the students in their classes are tackling. As one librarian described, she asked herself what is most important to her students, and she concluded that finishing their assignment is their top priority. Because of this, she purposefully designed the tutorial to help students complete those assignments. Interestingly, the two librarians in this group created their tutorials out of necessity. They simply could not keep up with the course demand and devised the tutorial as a way to save time and avoid duplicating effort. As one librarian put it, “You really need to develop a strategy when you have mass assignments.” The tutorials used by librarians in this group also tend to rely heavily on visual elements and one even includes audio clips. Both librarians acknowledge the importance of their
tutorials as marketing tools, but unlike members of the previous group, the faculty and teaching fellows have done a great deal to promote the tutorials to students by including links to them on their course web sites and discussing them with other faculty.

The ARTIFAQ tutorial was designed to help students complete an assignment successfully in which they are asked to write about an object in the Ackland Art Museum. Most of the students have never written about art and some have never even been to a museum, and so the tutorial is introductory in nature. The librarian relies on it as the basis for in-class presentation unless there is a specific theme for the course in which case she will create an additional guide. One example of this is when a class focused on the photography of Matthew Brady and the librarian needed to include a guide that addressed photographic art. Since the subject matter is art and images are integral to the course content, the librarian included numerous links to pictures of art objects. The result is a tutorial that is exceptionally rich with visual elements. In creating the tutorial, the respondent also acknowledged that students’ first choice of information sources is the Internet so, rather than fight that tendency, she included web sites that contained high-
quality, reliable information like the Metropolitan Museum of Art’s Timeline site. In addition, she also included a link to a guide for evaluating web sites because she believes that type of skill is something that undergraduates desperately need at this point in their academic careers.

The respondent also reported that she believes most of the teaching fellows who have used the tutorial have been happy with it and link to it from their course pages. She noted that she needed to create the tutorial so that she was not repeating the same information to the same classes. She said she has the highest teaching load of any departmental librarian and only has two professional staff members to handle classes.

The Finding Health Information: A Path Through the Maze arose out of similar necessity. Initially, the librarian was only teaching a couple of English composition classes a year, but as time went on that number increased to between seventy and ninety. Due to this demand, the librarian requires that each class complete the tutorial before coming for an instruction session. She spends ten minutes or so talking about refining research topics and spends the rest of the class going around to students individually to help them apply the lessons from the
tutorial to their particular research question. This way, her staff does not have to spend time preparing for each class individually and can focus on other instructional responsibilities outside of the English composition program.

The health science librarian said that she was fortunate that they began the tutorial relatively early on in the late 1990’s at a time when faculty were eager to find content for their newly-created web sites. Faculty have continued to be supportive by passing along feedback that they get from students, as well as their own, to librarians and by linking to the tutorial from their course pages. Some faculty even require the completion of one or more of the health science tutorials. Furthermore, there is a long history of faculty-librarian collaboration within the health sciences and it is not uncommon for librarians to help faculty plan their courses. This is not true of English composition teaching fellows, which may explain their initial reluctance to accept the requirement of completing the tutorial prior to class. However, the librarian noted that most of the teaching fellows come from a humanities background so they are fairly dependent on the expertise she can offer. She further states that the tutorial has given health science librarians visibility and
recognition as being technically savvy so that people may come to them with more technical questions.

The health sciences tutorial attempts to find a happy medium between introducing broad ideas and practical skills. The tutorial discusses broad issues like generating search statements, but focuses primarily on what needs to be done to execute a search effectively.

Summary of Significant Findings

The table that follows highlights the major characteristics (factors) found for librarians and their tutorials in each group:

<table>
<thead>
<tr>
<th>Group One</th>
<th>Group Two</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No concept of tutorials as marketing tools expressed by librarians</td>
<td>• Strong sense of understanding of tutorials as marketing tools</td>
</tr>
<tr>
<td>• Intended audience of tutorial does not match the constituents of the classes taught</td>
<td>• Librarians mention the need to reach off-campus patrons</td>
</tr>
<tr>
<td>• Content tends to be very textual</td>
<td>• Tutorials not subject-specific</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Very close relationship between tutorial and assignments for particular classes; task-oriented</td>
</tr>
<tr>
<td>• Tutorials a result of necessity (i.e. not enough staff to handle course load)</td>
</tr>
<tr>
<td>• Exceptionally visual and/or interactive content</td>
</tr>
<tr>
<td>• Faculty help to promote tutorial</td>
</tr>
<tr>
<td>• Librarians have strong sense of tutorials as marketing tools</td>
</tr>
<tr>
<td>• Tutorials are subject-specific</td>
</tr>
</tbody>
</table>
ANALYSIS OF FACTORS

Audience

Overall, there seems to be a strong relationship between the use of tutorials for instructional purposes and how closely the intended audience matches the actual audience and its needs. The Online Legal Research Tutorial, for example, addresses a group of people who have no regular relationship with the law school or interaction with law librarians whatsoever. Similarly, the Humanities Research Tutorial seeks to provide a general overview of humanities research to upper-level undergraduates and graduate students while many of the classes demand assignment-specific instruction for lower-level undergraduates.

On the other end of the spectrum, tutorials like the ARTIFAQ arise out of students’ need to complete a particular task, in this case writing about a work of art. The tutorial’s scope is bound by the requirements of the assignment and the education level of the students. In this case, the creator did not imagine a broad, general audience, but an audience with well-defined information needs who have little or no art research experience. The
constituents of this audience are also the major constituents of the instruction classes.

Those librarians and tutorials that fall between these two extremes exhibit the qualities of both. The Introduction to Library Research has a particular audience in mind, namely that of a student new to the library system and to research. However, the tool is not closely connected to an assignment, although pieces of the tutorial have been used in class to assist students with their work. In this case, an assignment may not have influenced the tutorial’s development, but the intended audience bears close resemblance to the actual audience in English composition courses. The Manuscripts Research Tutorial also does an effective job of meeting the needs of its imagined and actual audience. Once again, no assignment figured in the development, but the librarian does address some important, practical needs of the students in the instruction sessions such as registering online to use materials, and getting acquainted with the procedures of the Manuscripts Department and its collections so that they can physically use materials.

These results suggest that, in order for a tutorial to be used for training purposes, librarians must fulfill the particular, not general, needs of the actual audience.
These needs are not always assignment-based but it is crucial that the type of information and the level of skills described match the people who are using the tool. In cases where it is possible to link the tutorial to an assignment, it appears that librarians are more inclined to use it in class if it closely suits the immediate needs of the user.

**Visual Elements**

The importance of images to carrying out the lesson also appears to be a factor in determining whether or not a librarian will rely on a tutorial for in-class use. Generally speaking, the more image-rich the tutorial is, the more likely the librarian is to use the tutorial toward an expanded use. The Citing Information and the Online Legal Research tutorials are examples of almost entirely textual materials receiving very low use in class. On the other end of the range, the Finding Health Information tutorial is exceptionally dependent on the use of screen captures that illustrate how to search the catalog and databases. On most pages, these images even outweigh the amount of textual content. The different modules are also color-coded so that they are more easily visually distinguishable. Similarly, the ARTIFAQ is entirely
dependent on the art images themselves as the delivery mechanism for the intellectual content of the tutorial. The lessons rely on the ability of students to interpret art objects and translate that information into the library's resources. Additionally, the librarian included a large number of links to web sites outside of the library system, thereby giving students a dynamic array of resources to view.

The tutorials in Group Two, as well as the Humanities Research Tutorial, do include screen captures and other images. As a whole, the text, not the images, predominate. In many cases, the images do not seem to be pivotal to understanding the meaning of the text and are of a more supplemental nature. For instance, the Introduction to Library Research shows images of journal covers and logos from database vendors, which may be helpful in understanding the text but they are certainly not necessary. One exception is the Manuscripts Research Tutorial in which a visual orientation to the Manuscripts Department is provided, images of actual documents and writing samples illustrate the variety of primary source materials the Department owns, and there is also an exercise in which students are prompted to interpret a nineteenth-century runaway slave poster. I suspect that
since there are a large number of images that are closely related to the lessons, this tutorial would adapt well to in-class use if the librarian were given sufficient time to use it in that setting.

The importance of the visual quality of tutorials is perhaps not surprising. After all, if librarians are going to use the tutorials in class they will probably want something visually interesting to catch students’ attention. As one librarian mentioned, tutorials are primarily visual learning tools. Therefore, librarians should take full advantage of tutorials’ strength as a visual medium if they want to use them in expanded ways.

Marketing

The tendency to use tutorials as a marketing tool proved to be a defining characteristic of those librarians in Groups Two and Three. As librarians recognize the value of tutorials in promoting a positive image of their instruction programs, they tend to view the tools as integral to supporting that work. It is this recognition that seems to prompt librarians to find ways to include tutorials in their instruction efforts.

None of the respondents in Group One expressed any ideas of the tutorials’ marketing potential. Two of the
librarians mentioned that the tutorials serve as a sort of “window dressing publicity” that demonstrate that the library is keeping up with trends, but they did not articulate any marketing efforts for which they used the tutorial.

The respondents in Groups Two and Three, in contrast, considered marketing to be one of the most valuable uses of the tutorials. They realize that tutorials have the potential to reach people from all over the world. Furthermore, the tutorials create a bridge between faculty and librarians by creating an offering that librarians can present to faculty that can be tailored to their needs. One librarian described how she approached Exercise and Sports Science faculty about making a tutorial for them and they quickly adopted the idea, posting the tutorial to their Blackboard site. This way, librarians can insert themselves in the work of faculty who may in turn view the library as relevant to their teaching efforts.

Librarians have also used the tutorials as a way to demonstrate that they are conscious of what is going on around campus and that they are a resource to turn to for help with current issues. A number of respondents pointed to the current emphasis on campus on the ethical use of information, which became the subject of its own tutorial.
An additional marketing-related factor becomes apparent as one moves from examining Group Two to Group Three. In Group Three, faculty participate actively in promoting the tutorial to students and colleagues. The health science librarian noted how important word-of-mouth advertising among faculty is to the continued success of her tutorial. She said that the tutorial helps students do better on papers, which then encourages faculty to tell each other about the tool. The art librarian, too, mentioned how most teaching fellows link to the tutorial from their course pages as the tutorial is the major resource for the intended course.

These results suggest that as librarians perceive the power of tutorials’ marketing function, they are more likely to consider them important to their instructional services and libraries. Furthermore, there is a relationship between those tutorials with a high level of expanded use and the involvement of faculty in promoting the tutorials. More research is needed to determine whether or not marketing itself causes different levels of expanded use or whether those tutorials with a high level of use lend themselves easily to successful marketing campaigns. However, it should be noted that one variable that proved not to be a significant factor in this study
was faculty involvement in the creation of the tutorial. None of the librarians reported faculty involvement in developing any part of the tutorial, but those in Group Three reported strong faculty support after it was completed.

**Necessity**

Perhaps not surprisingly, those librarians who relied on tutorials most heavily are also the groups that faced few other alternatives for accommodating the demand for instruction. The health science librarian described how her regular instruction classes were being bumped from the schedule at particular times of the year when the English composition classes monopolized the time of the three instructors available to teach. Similarly, the art librarian did not have the time to teach the same subject matter repeatedly with a staff of only two professional librarians.

The integration of the tutorial into the classroom, then, was more a matter of necessity than choice in these cases. By adopting the tutorial format, the librarians did not have to create a new guide and lesson plan for each new class. Instead, they could use the tutorial as a baseline
and then add some shorter, customized guides or individual consultations to adapt to the needs of each class.

**Subject-Specific**

While this factor was not expressed strongly in the study, it should be noted that there appears to be some relationship between Group Two and tutorials that are not subject-specific, and Group Three and tutorials that are subject-specific. For instance, in Group Three, the ARTIFAQ and Finding a Path Through the Maze tutorials concern Art and Health Science respectively. In Group Two, the Introduction to Library Research and Manuscripts Research Tutorial address conducting general research using resources particular to the institutions. Perhaps the more subject-specific a tutorial is, the more likely it is to address the exact needs of the audience, thereby lending itself to a higher degree of expanded use. However, more studies would have to be done to ascertain the validity of this factor.
CONCLUSIONS AND RECOMMENDATIONS

This study attempted to draw out factors that may influence the degree to which librarians utilize online tutorials in their instruction efforts. The results of this research identified the following factors that may play a role in determining the level of expanded use of a tutorial:

- The relationship between the intended audience of the tutorial to the actual audience in the classroom
- The relationship between the needs filled by the tutorial and the actual needs of the patrons
- The degree to which visual elements are incorporated into the tutorial
- The degree to which tutorials are recognized as marketing tools
- The involvement of faculty in promoting tutorials
- The level of demand for library instruction

Due to the parameters of this investigation and the scope of the study, it is not possible to conclude definitively what causal relationships exist. However, these factors can form the basis of future research in which they could be studied in-depth across many institutions. In this way,
one can determine how to manipulate the factors in order to achieve the desired degree of expanded use. While this study cannot reach absolute conclusions, I will attempt to offer suggestions based on this research that may assist librarians who wish to increase the level of expanded tutorial use.

**Recommendations**

What seems clear from this study is that librarians must examine carefully the uses to which the tutorial will be applied while the tool is still in the planning stages. First, librarians must determine who the intended audience is to be and whether or not that audience will be the audience they will encounter in library instruction session. If the audiences are different, it is likely that the tutorial will not translate well to an in-class environment because it will not be relevant for those in the class. If the audiences are the same, it is crucial that the librarian have a clear understanding of what the faculty are teaching and what assignments students need help to complete. The tutorial should clearly reflect those needs so that the students can immediately recognize the relationship between the tasks they need to accomplish and how the tutorial can help them to complete the tasks.
In doing so, the tutorial is best poised to be responsive to the motivations of students who are largely driven by the need to meet the requirements of their assignments.

In fact, in those groups with low levels of expanded use, one of the major reasons librarians cite for not using tutorials more fully is the fact that they are not readily adaptable to the needs of a particular class. Often, the classes require librarians to delve into subject-specific resources using examples based on the class assignments which can vary widely. Therefore, it would be helpful if librarians thought of ways in which to allow customized research questions to be entered into the tutorial, rather than relying on static screen shots that demonstrate a search strategy. One possible solution was proposed by a librarian in this study who envisions a tutorial that is created entirely by each individual user. The user picks and chooses elements he wants to learn about and a mechanism assembles those pieces into a customized tutorial. Even if such a solution is unrealistic at this point in time, the principle remains sound. The health sciences librarian, for example, allows for this kind of customization by requiring that students complete the tutorial to get a basic understanding of research concepts, which the librarians can then help students apply to their
assignments on an individual basis in the classroom. This way, the librarians are not spending large amounts of time creating a new guide for each class.

Librarians should also recognize strengths and weaknesses of the online environment as a teaching tool. The librarians whose tutorials exhibited the highest degree of expanded use were also the ones who made the most appropriate use of the Web setting. For instance, the online environment is not very well-suited for delivering large amounts of text, and so special attention should be paid to incorporating visual elements that reinforce the text rather than relying on extended explanations. Also, as in the ARTIFAQ, the librarian recognized that the Web offers her the chance to bring in resources from outside of the library through linking to freely available sites. Doing so also appeals to her undergraduate audience that is accustomed to getting its information from the Internet.

Tutorials should also be recognized as relationship-builders between faculty and librarians throughout the design and implementation process. While no relationship was found between faculty contributions during the design phase and expanded use, it is clear that faculty can be strong forces for spreading the use of tutorials once they have been implemented. For this reason, librarians ought
to consider what elements they can include in their tutorials that would appeal directly to faculty. The librarians in Group Three in this study both indicated that faculty seemed to greatly appreciate the inclusion of tools to help students evaluate online information. Obviously, this addition filled a need for the faculty that they deemed worthwhile and so they passed their positive experience along to other faculty who might benefit. This word-of-mouth advertising can be extremely beneficial for librarians who wish to rely more heavily on tutorials to serve their teaching and outreach efforts.

As noted earlier, this study does not favor one state of expanded use over another, but these recommendations do acknowledge that some librarians may want to get more use out of the resources they invest in tutorials. The appropriate level of use will need to be determined on an individual basis taking into account such things as demand for instruction, technological and personnel resources, and the instructional needs of patrons. It is hoped that this research project will lead to further studies that will enable librarians to have better control over how their tutorials are used to serve their campus communities.
NOTES

3 Ibid., 30.
5 Ibid., 10.
6 Ibid, 15.
9 Ibid., 243.
12 Ibid, 53.
14 Ibid.
15 Nichols, Shaffer, and Schokey, “Changing the Face of Instruction,” 380.
16 http://www.lib.unc.edu/instruct/tutorials.html
17 Note: The Interview Request Letter and proposed research study were approved by UNC’s Academic Affairs Institutional Review Board prior to conducting the study.
18 One other librarian was interviewed about his involvement in this tutorial. This librarian designed the tutorial but he did not teach classes or write the content and so he did not fulfill the requirements of both criteria and was therefore not included in the research findings.
19 It should be noted that I played a major role in creating the content and doing the HTML coding for this tutorial.
Dear Library Professional,

I would like to invite you to participate in a research study that I am conducting with thirteen UNC librarians in partial fulfillment of the requirements for my Master’s Paper. Specifically, I am researching how librarians who created online library research tutorials at UNC are using them as part of their instruction and outreach efforts. It is my hope that this study will help librarians make full use of the benefits of online tutorials.

To be included in this study, I ask that you respond to this letter within the next week so that we may set up a time to meet for an interview. I anticipate that the interview would last no longer than one hour. I would ask you questions about your tutorial and your instruction and outreach endeavors, but you may choose not to answer any question you wish.

The interview would be recorded on audio tapes which will be stored at my place of residence and will not be shared with anyone other than myself. The tapes will be erased upon submission of the Master’s Paper to the School of Information and Library Science. You may, at any time during the interview, request that the tape recorder be turned off. Furthermore, you may choose whether or not you wish to be mentioned by name in the Master’s Paper although the name of your tutorial may be mentioned as necessary.

Please note that your participation is voluntary and, should you agree to participate, you may stop participating at any time. If you have any questions or concerns about participating in this research, please do not hesitate to contact me at home at (919) 967-1203 or through e-mail at stover@email.unc.edu. You may also contact my advisor, Dr. Daniel, School of Information and Library Science, at daniel@ils.unc.edu.

The Academic Affairs Institutional Review Board (AA-IRB) at The University of North Carolina at Chapel Hill has approved this study. If you have any concerns about your rights as a participant in this study, you may contact the AA-IRB at (919) 962-7761 or at aa-irb@unc.edu.

Thank you very much for considering being a part of this valuable study and for contributing to the professional development of librarians. Your involvement is crucial for the success of this research project and I look forward to speaking with you.

Sincerely,

Jill S. Stover, MLS Candidate, UNC-CH
APPENDIX 2

Interview Questions

1. What were the major impetuses for the creation of your tutorial?
2. What instructional goals did you intend to meet with your tutorial? How do you attempt to meet these goals?
3. What features of the tutorial have you found to be the most useful in helping you to meet your goals?
4. What type of learning is the tutorial intended to promote? Active? Passive? Other? And how does your tutorial do this?
5. Have you incorporated your tutorial into your instruction efforts? If so, in what ways?
6. For what reasons do you choose to use your tutorial over other methods of instruction?
7. Have faculty played a role in the development and implementation of the tutorial? If so, in what ways?
8. Have students played a role in the development and implementation of the tutorial? If so, in what ways?
9. Have you had any other assistance in the implementation of the tutorial? Please describe.
10. Have you faced any difficulties while implementing and/or using your tutorial? Please describe.
11. Have you received any feedback on the tutorial? How would you characterize this feedback and can you give examples?
12. Have you experienced any unintended benefits or disadvantages as a result of incorporating the tutorial into your instruction?
13. What factors would make you more likely to increase the use of your tutorial in your teaching?
14. What factors would make you less likely to use your tutorial in your teaching?
15. Overall, how would you characterize the relationship between your tutorial and your instruction efforts?


