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This study describes the results of a questionnaire web survey of faculty in the College of Textiles and College of Design at North Carolina State University. The survey was conducted to determine if and how faculty members use fabric and textile samples, if they are aware of the fabric collections available at the Textiles Library, and if an interest exists in developing an electronic database of fabric samples.

Fabric and textile samples are used by faculty for classroom teaching and demonstrations, product development research, historical studies, and research projects. Most faculty members are not aware of the collections held by the Textiles Library. However, an interest does exist in developing an electronic resource. Further study and collaboration between the Libraries and interested faculty are necessary before beginning a digitization project.

Headings:

College and university libraries -- Relations with faculty and curriculum

Surveys -- Information needs

Textiles -- Information services

Use studies -- College and university libraries

AN ASSESSMENT OF USE OF FABRICS AND TEXTILES BY NORTH CAROLINA STATE UNIVERSITY TEXTILES AND DESIGN FACULTY

by
Terra M. Kridler

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Approved by

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Helen Tibbo

Introduction

The Burlington Textiles Library at North Carolina State University actively collects the most recent publications on textile management, engineering, economics, design, chemistry, and technology. The strong collections support faculty research, industry development, and the undergraduate and graduate programs offered at the College of Textiles.

The Textiles Library also has a separate space for their special collections, which include a collection of about 400 pieces of hosiery, and several thousand fabric samples. The unique and historically significant textile collections hold information on the history of textile manufacturing and technology, style and design, and much more. However, the textiles are not advertised or represented in any way. No catalog records or finding aids exist. No signs are posted. The room is tucked far in back of the library, and kept locked for security purposes. Very few people know the room exists, let alone of the valuable and interesting materials within.

Only recently, the room was refurbished. The recently remodeled space has inspired further improvement and development of the collections. Measures to market the collections, however small, are underway. A large collection of automotive samples was recently acquired. And the few faculty members who know of the fabrics have inquired about the possibility of digitizing the collections.

With the state of the fabric collections as they are, a digitization project is simply unfeasible. Much more information needs to be gathered concerning preservation,

description, and use of the collections before a project of this magnitude could take place. To begin this process, I surveyed the current and potential use of the fabric collections held by the Textiles Library to assess the degree and uses of fabrics by faculty of the textiles and design colleges. The information supports the development of a digital resource for the fabric and textile collections. Finally, faculty opinions on what metadata to collect on the samples suggests access points for a database.

Literature Review

This literature review focuses on three main areas of study to create a comprehensive view of how a fabric collection should be developed in an academic library setting. Literature on library and special collections use provides a basis of comparison to use of fabric collections. Literature on the use of physical and electronic collections of fabrics and textiles helped to determine potential users, such as which academic departments would have the most interest in and use for fabric collections. Finally, literature on fabric and textile classification recommended metadata to be captured and explained how various users employ this information, which is important in determining database access points. A survey was developed based on the literature review to collect information on potential users of fabric and textile collections their needs regarding such collections.

Library and Special Collections Use

Researchers have conducted several studies on faculty library use, use of special collections in libraries, and library use by specific groups of users. They investigate

reasons for non-use of certain collections, observe search patterns and identify service improvements, and to justify digitization projects or the establishment of special libraries.

The literature on general special collections use includes studies on evaluation methods, and ways to encourage further use through improving existing systems, and creating new systems based on these studies. A national survey of information users in colleges and universities indicated that electronic resources are substantial and growing as younger users are showing greater competency with electronic information. (Marcum & Gerald, 2003) At the same time, several studies emphasize that print and physical materials, particularly special collection materials, are still important and heavily used by scholars, researchers, and faculty. (Bedard, 2005; Jankowska, 2004; Mandel, 2004)

Several studies look at library use and research behavior of faculty, especially in comparing use of print sources versus electronic resources or the web. A study of faculty information seeking practices explored the frequency of library use, as well as faculty opinions of library collections versus personal collections as important sources of information. (Mayfield & Thomas, 2005) A paper examining the information seeking behaviors of history graduate students in comparison to professional scholars looked primarily at use of print versus electronic sources, as well as computer use in libraries, and use of library services. Students were found to have used electronic resources more often than their faculty. (Delgadillo & Lynch, 1999) One survey established that use of electronic resources was influenced by the usefulness of sources, convenience, and resulting productivity. (Korobili, Tilikidou & Delistavrou 2005) However, a certain level of skepticism still exists as to the reliability and accuracy of web resources. (Herring, 2001)

Patterns of use are observed by examining use of special or specific collections or libraries. The results of a questionnaire survey carried out by the East Midlands Regional Library System to assess use of reserve and special collections, identify duplication efforts, and create a maintenance and development plan. (Feather, Matthews & Pritchett, 1995) A study from the United Kingdom discussed how researchers in the field of women's studies used the Fawcett Library, a special collections library in the area of women's studies in London. Researchers were asked about the purposes of their research, what libraries and materials they used, and if they were aware of the resources Fawcett offered. Not only was use of the library and its print and online resources examined, but reasons for non-use were also investigated. A large part of non-use of the library by faculty was lack of awareness of the subject area and contents of the collections, and whether or not they would be relevant to their studies. (Blagden, 1987)

As indicated by these studies, survey research is an effective means of measuring who uses what resources, how, and why. Information collected through such survey research can be used to offer new services, which can help improve the visibility of special collections though publicizing, and bring in more and new users. (Mersky, 2005; Sambrook, 2006; Hayden, O'Brien & Rathaille, 2005) Building an electronic resource "just because" is costly and time-consuming. Creation of such a system is likely to be more successful if it is developed based on user needs and behavior. (Abels, Griner & Turqman, 2004)

Fabric/Textile Collection Use

Attention is often given to use of fabric collections in a corporate and industry setting, who use them for marketing and design purposes. Designers have long used non-

digital collections to research fabric development and for inspiration in creating new materials. Vendors and marketers also use physical fabric sample collections in selling materials. Small stores, like vintage fabric dealer, What Goes Around Comes Around, maintains an antique fabric collection as a service to their customers. (Gilbert, 2005) And manufacturing companies, such as Supima Cotton, have compiled collections of fabrics made with the cotton Supima manufactures. Supima's fabric library enables provision of the most current samples to brands and retailers, as well as informs Supima of how their cotton is used, making them an active marketing partner. ("Supima Licensees," 2003)

Digital fabric libraries opened up a world of options to textile companies in improving business efforts. In 1997 a range of topics relating to digital fabric libraries were presented at a Textile and Information Society conference. Development of digital collections with the linking capabilities of HTML eliminated the need to create complex relational databases. (Lam, 1997) The Textile Department of Minho's University in Portugal introduced an interactive fabric library to reduce the costs of creation and development of new products for marketing purposes and promotion, as well as to support academic libraries. (Neves & Cunha, 1997) A multimedia fabric library was also presented. The tool assists buyers in outlining products to be developed and select designs for production. The multimedia fabric library also assists designers, allowing them to search or browse for available samples, providing inspiration for development and research. Finally, geographical and communication barriers are overcome by placing these collections online. (Phillips, 1997)

DuPont's digital fabric library was one the first large collections of fabrics to be offered online. The DTI Library helps companies source fabrics worldwide by enabling customers to more efficiently sample fabrics made with DuPont fibers. According to the Library's manager, the resource never intended to replace the need to see and touch the fabrics, but to make the pre-sale process easier and reach a wider audience. (Walzer, 2002) During the SARS epidemic in 2002 the online nature of these libraries proved extremely beneficial in maintaining business operations with Asian countries. Asia is an increasingly important region in the industry, but corporate travel policies changed as SARS became a threat. Use of DuPont's online fabric library jumped 900% that year, demonstrating the importance of overcoming geographic barriers. ("Brands Go Online," 2003; "DTI Fabric Library," 2003) More recently, digital technology is being used by smaller business entities, such as thetrimsource.com created by software developer Scott Oldham, to consolidate the offerings of thousands of global trim suppliers. ("New Trim Resource," 2006) Cotton Incorporated also maintains an extensive fabric library online. Cottonworks Fabric Library is used as a research tool for marketing and sales. Material and color trends can be tracked using the resource. This capability also allows designers to classify garments by season, trend, color, and more. (Borland, 1997; Haisley, 2003)

Little research exists on how textile collections are used in an academic environment. Many of the reasons cited for assembling such collections are similar to those found in the textile industry. Samples are used in the areas of textiles science and cultural studies. *J. J. Pizzuto's Fabric Science Swatch Kit*, for example, includes a collection of fabric samples of every major type of fiber, yarn weave, and knit, as well as examples of dyes, prints, and finishing applications. Each swatch illustrates a particular

characteristic, such as fabric or yarn type, weaves, effects, knits, designs, and finishes. The swatch kit is designed to accompany textiles science textbooks for introductory level textile science courses. (Price, Cohen & Johnson, 2005)

More common for public display, however, are collections of textiles for cultural or historical study. Similar to corporate use of fabric collections, textiles are studied in order to find trends in design, construction, and materials to interpret old or foreign cultures. The University College for the Creative Arts at Farnham in the U.K. developed an online textile collection intended to demonstrate the purpose of a broad range of textile techniques, processes, and structure, as well as function, origin, designer or maker, date, and culture. Such a collection attracts practitioners and historians as an educational resource and as inspiration for new research. (Joint Information Systems Committee (JISC), 2006)

Digital fabric collections are also used for conservation purposes. Structural features and physical condition must be assessed to determine the best treatment for delicate, oversized, or historical materials. By conducting a non-invasive digital image analysis, a sample can be captured without harming the artifact. The procedure is used on nineteenth century flags, including the Star Spangled Banner, to provide information relevant for conservation measures and decisions about care, exhibition, and storage. (Cardamone, Damert, Phillips & Marmer, 2002)

Fabric Classification

Classification of fabrics must reflect the multi-disciplinary nature of textile study to optimize use of a collection by as broad an audience as possible. Irene Emery identified the need to streamline terminology and classification among the numerous

disciplines that use and study textiles. She found an extraordinary amount of inconsistency in how textiles are described. Textiles scientists use a certain vocabulary, historians and anthropologists use another, and designers and artists use yet another. Emery's *The Primary Structure of Fabrics* is a strong resource for practitioners to help explain the primary fabric structures, their variations, and applications. Particularly in identifying and researching ancient textiles, technological analysis must be accompanied by design, historical development, cultural use and significance, time period, and geography. Her work covers components of fabric structures, classification of structures, and structures accessory to fabrics. (Emery, 1995)

Participants of the Textiles and Information Society conference also recognized the need to accommodate terminological differences in a variety of disciplines in developing commercial databases. Fabric collections can help clothing designers predict fabric behavior, and the implementations of 3-D CAD systems have improved these efforts significantly. (Phillips, 1997) In digital collections of fabrics items are classified by material behavior and parameters. (Krzywinski, Rodel & Schenk, 2001) Fully assembled garments can also be classified by style, such as casual, retro, or boyish, each with its own combinations of patterns, materials, and fits. (Masuda, Mori & Murata, 2005)

Designing new fabrics involves studying the mechanic and structural properties of existing fabrics, such as weave pattern, yarn number, density, and crimp, as well as colors and color arrangement. Manual inspection can be a tedious and time consuming process. Through the use of digital imaging technology, the fabric analysis process can be

automated to classify fabrics by these properties, streamlining the design process. (Jeon, Bae & Suh, 2003; Kang, Kim & Oh, 1999)

In the manufacturing sector fabrics are classified according type, fiber properties, and assembly and production techniques. The mechanical properties of fibers and fabrics are used to improve or automate production processes. Such properties, for example, can quickly determine necessary sewing operations to improve machine-fabric interaction, such as to optimize seam quality. (Ghosh, 1979; Barrett, Clapp & Titus, 1996)

The development of a digital fabric collection will involve, not only finding out who would use such a collection, but also specifically what they would use it for and what information they need about each item to make it useful. The intended audience of a collection of fabrics held at NC State will primarily consist of those in the textiles and design related disciplines. This survey determined how potential users currently use the library, its resources and services, whether or not they use fabrics and in what capacity, and how materials could be described to optimize use and usefulness of digital representations of available collections.

Methodology

Approximately 65 College of Design faculty and 63 College of Textiles faculty were contacted to participate in the survey because of their especially high potential for interest in the subject matter and/or the study. The survey included 17 open- and closed-ended questions asking about participants' library use, fabric or textile use, and opinions of the development of a digital fabric database. (see Appendix) An email was sent to the faculty of both colleges explaining the study and directing them to the online survey.

After two weeks, a brief reminder email was also sent. The survey was made available for a total of four weeks during the fall course semester.

Results were compiled to report survey findings, and identify areas for further observation. Comparisons of variables illustrate relationships between faculty members' departments, library use, fabric use, recommendations for or against developing a digital resource, metadata, and current awareness of the existing collections at the Textiles Library. And textual data is used to verify, enhance, and provide explanation for the findings of numerical data.

Connections were drawn between faculty's college or department, and their library use to determine if they use library resources and services on a regular basis, and to deduce whether or not they would use textile or fabric resources available in the libraries. Use of electronic resources and online services versus use of material sources within each college were also compared.

Each college's use of fabrics was noted to see if and how they use fabrics for academic purposes. Participants' use of the library, particularly electronic versus physical resources, and whether or not they recommend a digital resource of fabrics is noted. Also, the descriptive metadata selected by participants in each college will be compared to determine what access points in a database would be necessary for different types of users.

The study also attempted to determine if the college's faculty are aware of the fabric collections and to what extent. Those who do know of the collections were asked if they currently use them or have plans to do so in the future. Faculty input was gathered regarding opinions on digitizing the materials. The information has been used to explain

potential behavior and make suggestions for developing the collections. Comparisons drawn between the variables support the idea that the collections will be used if made more openly available. Positive feedback was received regarding the development of a digital resource for the collections to support development and suggest points of access.

Findings

Nineteen responses were received. (see Table 1) Ten responses were received from the College of Textiles, including five from each department. Nine participants from the College of Design responded, the most being members of the Art and Design department, but also including Industrial Design, Landscape Architecture, and Graphic Design.

Table 1. What is your home department?

Department	Responses	Percent
Textile & Apparel Technology & Management	6	33%
Textile Engineering, Technology & Science	5	28%
Art & Design	3	16%
Industrial Design	2	11%
Landscape Architecture	1	6%
Graphic Design	1	6%
Architecture	0	0%

Use of library resources and services among the faculty at the Colleges of Textiles and Design was assessed by examining areas of library use in each department, including how often they visit the library, how often they browse library materials, how

often they use in-house resources and services (checking out books, copying journal articles, consulting reference material, consulting a reference librarian, and placing material on reserve), and how often they use electronic resources and services (placing materials on e-reserve, virtually consulting a reference librarian, searching the library catalog, and searching for articles in periodical databases.) All respondents in both colleges visit the library at least occasionally, while many faculty visit more often than others. Library visitation is similar in both colleges. Branch libraries are located in both colleges, so both libraries are equally convenient for faculty to visit. Also similar in both colleges is browsing behavior. Most respondents occasionally browse the bookstacks or current periodicals. (see Table 2)

Use of the library's in-house services and resources (checking out books, copying journal articles, consulting reference material, consulting a reference librarian, and placing items on reserve) is consistent across the two colleges as well. Consulting reference materials and placing items on reserve were determined to be the most often used services, with almost 60% respondents indicating frequent use. (see Table 2) As for electronic resources, respondents from both colleges used e-journals and online databases, with more respondents at the Textiles College using them more frequently. Not surprisingly, the library's online catalog was the most frequently used electronic service in both colleges. (see Table 3)

Table 2. How often do you do the following at a library or libraries on NC State's campus?

In-house library services	Frequently	Occasionally	Never
Visit a campus library	9	10	0

Check out books	8	10	1
Copy journal articles	5	12	2
Consult reference material	11	8	0
Browse the books stacks	2	14	3
Browse the periodicals	5	10	4
Consult a reference librarian	3	14	2
Place items on reserve	11	7	1

Table 3. How often do you do the following online through the library webpage?

Online services	Frequently	Occasionally	Never
Search for an article(s)	14	3	2
Use E-journals	11	5	3
Place materials on E-reserve	2	9	8
Consult a reference librarian	3	9	7
Search the catalog	14	4	1
Use the library's databases	11	6	2

Use of fabrics for research or in the classroom was slightly more common among respondents in the Textiles College than the Design College. (see Table 4) Though, one respondent from the Industrial Design department did submit a positive response to fabric use, demonstrating the cross-disciplinary nature of textiles.

Table 4. Do you use fabric samples in the classroom or for research?

	Yes	No

Textile & Apparel Technology & Management	3	3
Textile Engineering, Technology & Science	3	2
Art & Design	3	0
Industrial Design	1	1
Architecture	0	0
Landscape Architecture	0	1
Graphic Design	0	1

When asked where they found the fabrics they use for academic purposes, the highest percentage of respondents said they use samples from personal collections. (see Table 5) Fabric stores and department collections are also sources for materials. Other sources include ATEXINC, which is a textile educational supply company, and textile manufacturers. The Gallery of Art and Design at NCSU is noted twice as being a source of fabric samples. The Gallery has collaborated with both colleges in the past on projects and exhibits. Further collaboration with the Gallery could be beneficial to the Textiles Library if the Gallery could be consulted on organization, description, and access to their fabric collections.

Table 5. Where did you find the samples you use?

Source	Responses
Fabric store	4
Online	0

Vendor	2
Personal collection	6
Textiles Library	1
Other libraries	0
Department collection	4
Other:	4

Correlations between fabric use and library use were sought from a variety of different angles. Use of fabrics compared to library visits and electronic resource use does not reveal an indication of a relationship between the two types of behavior. When compared to in-house library use, it was noted that 90% of respondents who use fabrics at least occasionally consult a reference librarian. While the correlation is probably coincidence, this aspect exposes some marketing potential on the part of librarians, and encourages discussion of the collections.

The free-text comments on the survey were the most valuable aspect of this study. About 80% of respondents suggested a possible use they have for the fabric collections. Suggestions ranged from classroom teaching and demonstrations, product development research, historical studies, and research projects. Respondents said they could use the samples to illustrate characteristics such as mechanical finishing and design techniques, dyes, patterns, and structural properties. Several people said the collections can be used in management courses to study project components and development, corporate identity, and branding. Some suggested use of the collections from a historical perspective through studying the history of mills and products. Another common theme among responses was use of the collections for research projects, including exploration of the

intersect between textiles and landscape architecture. Others suggested using the collections simply for inspirational and brainstorming purposes.

The survey attempted to determine to what extent faculty members in the colleges were aware the existing textile collections. Participants viewed a short flyer (see p. 28), featuring one- to two- sentence descriptions of the largest collections. Faculty were asked if they had heard of any of the mentioned collections, how they came to know of them, and if they had used samples from any of the collections. (see Table 6) More than half of respondents were not aware of any of the collections at the Textiles Library, including 40% of those who use fabrics for their courses or research. Most respondents who are aware of any of the collections heard of them by word of mouth or from a librarian (see Table 7 & 8), further emphasizing the effective role of the librarian in marketing the collections. Other responses to how participants came to hear of the collections included library orientation and at an interview. Considering the wide array of uses faculty have and can find for the collections, marketing efforts will be important, as will further development and enhancement of the collections. In addition to exhibits, articles, and some website presence, consulting with the faculty and visiting classes are a couple of ways to spread the word of the collections' availability, while also encouraging collaborative efforts between the colleges and libraries.

Table 6. Were you aware of the collections of fabric samples available in the Textiles Library?

	Responses	Percentage
I was NOT aware of the collections.	10	53%
I was aware of SOME of the collections.	7	37%

I am aware of the fabric collections.	2	10%

Table 7. How did you hear of any collections you were aware of?

	Responses
Consultation with library staff	3
Word of mouth	5
Suggested acquisition	0
Library catalog	1
Other:	2

Table 8. Have you used the fabrics from any of these collections?

	Yes	No
Harriss Collection of Modern Fabrics	3	3
Speizman Hosiery Collection	3	2
DeLeo Automotive Fabric Books	3	0
Other samples from the Textiles Library	1	1

Developing the collections through further organization and description are possibilities in expanding use. These efforts are currently underway by the Textiles Library. Digitizing the collection is another suggestion. Such a project would be costly and time-consuming, but would also undoubtedly enhance use and add value to the collections. A good number of recommendations for the development of a digital resource of the textile

samples were anticipated, and, indeed, 90% of faculty members recommend the development of a digital image resource of fabric samples, over half of whom suggested uses for such a development. (see Table 9) Little correlation was found between in-house library use and browsing behaviors of respondents, and whether or not they recommended the resource. However, most respondents who do recommend development of such a resource frequently use electronic library resources. The few who do not recommend development are frequent to occasional users of in-house library resources and services, but only occasionally if ever use electronic resources.

Table 9. Would you recommend the development of a digital resource including images of fabric samples?

	Yes	No
Textiles College faculty	10	0
Design College faculty	7	2

Table 10.

Do you use fabric or textile samples in the classroom or for research?	Would you recommend the development of a digital resource including images of fabric samples?	
	Yes	No
Yes	8	2
No	9	0

Arguments against the creation of a digital repository for the fabrics samples were that much about a fabric is lost in a digital representation. (see Table 10) One participant

said, “nearly all my students talk about their attraction to the tactile nature of fibers. Pictures are pretty. Textiles are real.” Another indicated that, “fabrics are not well reproduced in digital format [for purposes of studying] the structure and texture of the sample,” but affirmed that such a database would be useful for location of items.

Developing an electronic catalog of the material, even without scanned images, would definitely be helpful in finding specific items. Many potential users may be intimidated by the size and apparent disorganization of the collections, ultimately limiting their use. Allowing access to such a catalog online would make searching for material much more convenient, allowing virtual access, and search and browse capabilities. Users may not be able to feel the fabric and some information is lost in a scanned image. However, the database is not intended to replace the collection, but act as a surrogate of it. Once the actual collection is accessed, users will have had a chance to narrow down the number of samples they would like to *feel*.

Several other suggestions for use of a digitized collection were similar to those for use of the physical collections. Using the digitized images for classroom demonstrations, student presentations, research projects, and inspiration were common ideas. Undertaking historical or development studies would be easier, particularly if sorting and Boolean search capabilities can be integrated. Product development and inspiration are among the most common uses of corporate collections. It is interesting to see how consistent academic use of fabric samples is to corporate use.

Most of the suggestions offered by faculty are contingent upon the types and amount of information accompanying each sample. A project suggestion, for example, involving studying the history of textile design requires that the designer be a recorded

piece of information. Similarly, a study of finishing techniques would be much easier if the finishing technique of each sample were recorded. Currently, the information provided with samples varies between collections, and often within the collections. Items such as fabric type, date, and manufacturer are relatively common to item description. Other characteristics like finish, designer, and structure are not necessarily included on each item.

Participants in the survey were asked to identify information that would be of the most use to them and their purposes for using fabric collections or a digital fabric resource. (see Table 11) The options of descriptive metadata from which respondents were asked to select which had the highest selection rates included construction (81%), manufacturer (75%), and origin (75%). Those with the lowest selection rates included vendor (19%), patent associations (25%), and copyright holder (12.5%). A mix of descriptive information was requested from each college. A higher percentage of College of Textiles faculty chose fiber content, finish, origin, pattern, color, product, function, end use, machinery, and construction. A higher percentage of College of Design faculty chose location of manufacturer, vendor, date/date range, fabric type/raw material, texture, image, cloth structure, designer, and patterning technique. And 50% of the respondents from each college chose weight, manufacturing process, dimensions, patent associations, and copyright holder. Finally, one participant from each college made further suggestions, including absorption, strength, images of end-use products in use, and advertising relating to end product. Those who supported the idea of a digital resource to locate items indicated design and designers, technology, key concepts, and fiber/fabric combinations. It is interesting to note that technique, finish, form, texture, and structure

were not as often suggested. An explanation for this may be that such information can only be gathered with the sample in hand. Though, if this information were recorded it could certainly be used.

Table 11. What information, metadata, would be useful to record for each sample?

Metadata	Responses	Metadata	Responses
Manufacturer	12	Color	10
Location of manufacturer	5	Pattern	9
Vendor	3	Origin	12
Weight	8	Patterning technique	6
Construction	13	Finish	11
Date or date range(s)	7	Fabric type/raw material	8
Manufacturing process	10	Patent Associations	4
Fiber content	12	Texture	6
Cloth structure	9	Image	10
Machinery	6	Designer	7
End use	9	Copyright holder	2
Function	7	All of the above	5
Product	8	None of the above	0
Dimensions	6	Other	2

While the collections can be processed including only the data that currently accompanies the samples, it would greatly limit the possibilities of use of a digital resource. The inconsistency of data from one item to the next within the same collection would also be a limiting factor in optimizing use. Gathering some or all of the missing information, however, would almost definitely require special training. One trained in the area of textiles could most effectively identify characteristics like weave and cloth structure, finish, and patterning technique. Someone with a design or history background may be able to identify the origin, date range, or designer.

Using the collections for research projects was a common suggestion. It would be interesting to explore the possibilities of involving departments with specialties in the areas of textiles, design, and others. Results of fabric analysis projects, for example, would reveal a great deal of information, such as structure or fiber content, that could be incorporated into a fabric database. If research projects involve the identification of designers for a number of samples, this valuable information could be captured to enhance description. Participating colleges would be recognized for assisting in the development of the library database project. Especially considering the history of the textile industry in North Carolina and the prominence of textiles education at NCSU, it would be a great collaborative endeavor between the libraries and interested colleges to establish a textile description program. Such a process would also greatly reduce the costs involved in development. Such a program, however, is a far-fetched proposal. More likely, though, students in the colleges of interest could be hired to study of the fabrics and collect information in at least some of the descriptive data categories.

Conclusion

Further research is certainly necessary before embarking on a digitization project. The survey could be expanded to include more or all of NCSU departments, other universities in the triangle, or other textile colleges in the region. Developing the survey further may also be revealing. Incorporating usability studies of the textile or fabric image feature of databases such as Amico, Artstore, and the Design Library's Image Collection could assist in designing a database for Textiles Library fabrics. Evaluation of the content of these databases will help the Textiles Library determine what information to include. The library may also be able to find out who would like to contribute to the data gathering process through research projects or course assignments. Aspects of copyright would also need to be explored before making a database, especially one including images, available online or to the public. (Weston, 1997, Webb, 2005) Imaging techniques involving texture analyses may be able to assist in description of the fabric "hand." Automated fabric inspection systems have been developed that analyze textural features of scanned images. (Tuceryan & Jain, 1998; Wood, Wang & Robson, 1991; Bhakar, et al., 2004) It would be interesting to explore the possibilities of this technology in enhancing a digital fabric collection.

An interest in developing a digital fabric collection exists within the colleges of Textiles and Design. It is probable that other departments on campus would also be interested. Use of fabric sample collections in the academic environment of the university is similar to use in a corporate setting, for inspirational purposes, and for studying product development, and histories, as well as for illustration of key concepts, and as substance for research projects. A database would primarily be used for locating

fabrics, but the features of an electronic database allowing virtual access, search and sort capabilities, and sample images would make use of the collections much more versatile and convenient. It would reduce unnecessary handling of the physical collections, helping conserve the actual samples. And combined with effective promotion, an online database would also spread awareness of the collections, encourage use and collaboration, and legitimize maintenance, development, and future acquisition of fabric sample collections.

Appendix

Fabric/Textile Use Survey

1. Are you a: (please select one)

    ○ Textiles faculty member

    ○ Design faculty member

2. What is your home department?

    ○ Textile and Apparel Technology & Management

    ○ Textile Engineering Technology & Science

    ○ Art & Design

    ○ Industrial Design

    ○ Architecture

    ○ Landscape Architecture

    ○ Graphic Design

3. What courses do you teach? (check all that apply)

    ☐ T – Textiles

    ☐ PCC - Polymer & Color Chemistry

    ☐ TT - Textile & Apparel Management

    ☐ TE -Textile Engineering

    ☐ MT - Medical Textiles

    ☐ TTM - Textile Technology Management

    ☐ TC - Textile Chemistry

    ☐ TMS - Textile Materials Science

    ☐ FPS - Fiber & Polymer Science

    ☐ ADN - Art & Design

    ☐ ARS - Arts Studies

    ☐ D – Design

    ☐ DDN - Design-Graduate

    ☐ DF - Design Fundamentals

    ☐ DS - Design Studies

    ☐ GD - Graphic Design

☐ GC - Graphic Communication

☐ ID - Industrial Design

☐ LAR - Landscape Architecture

☐ ARC – Architecture

☐ Other: _____

4. How often do you do the following at a library or libraries on NC State's campus?

a. Visit a campus library	○ Frequently	○ Occasionally	○ Never
b. Check out books	○ Frequently	○ Occasionally	○ Never
c. Copy journal articles	○ Frequently	○ Occasionally	○ Never
d. Consult reference material	○ Frequently	○ Occasionally	○ Never
e. Browse the book stacks	○ Frequently	○ Occasionally	○ Never
f. Browse the periodicals	○ Frequently	○ Occasionally	○ Never
g. Consult a reference librarian	○ Frequently	○ Occasionally	○ Never
h. Place items on reserve	○ Frequently	○ Occasionally	○ Never

5. How often do you do the following online through the Libraries' web page?

a. Search for an article(s)	○ Frequently	○ Occasionally	○ Never
b. Use E-journals	○ Frequently	○ Occasionally	○ Never
c. Place materials on E-reserve	○ Frequently	○ Occasionally	○ Never
d. Consult a reference librarian	○ Frequently	○ Occasionally	○ Never
e. Search the catalog	○ Frequently	○ Occasionally	○ Never
f. Use the library's databases	○ Frequently	○ Occasionally	○ Never

6. Do you use fabric or textile samples in the classroom or for research?

○ Yes ○ No

7. If so, where did you find the sample you use?

☐ Fabric store

☐ Online

☐ Vendor

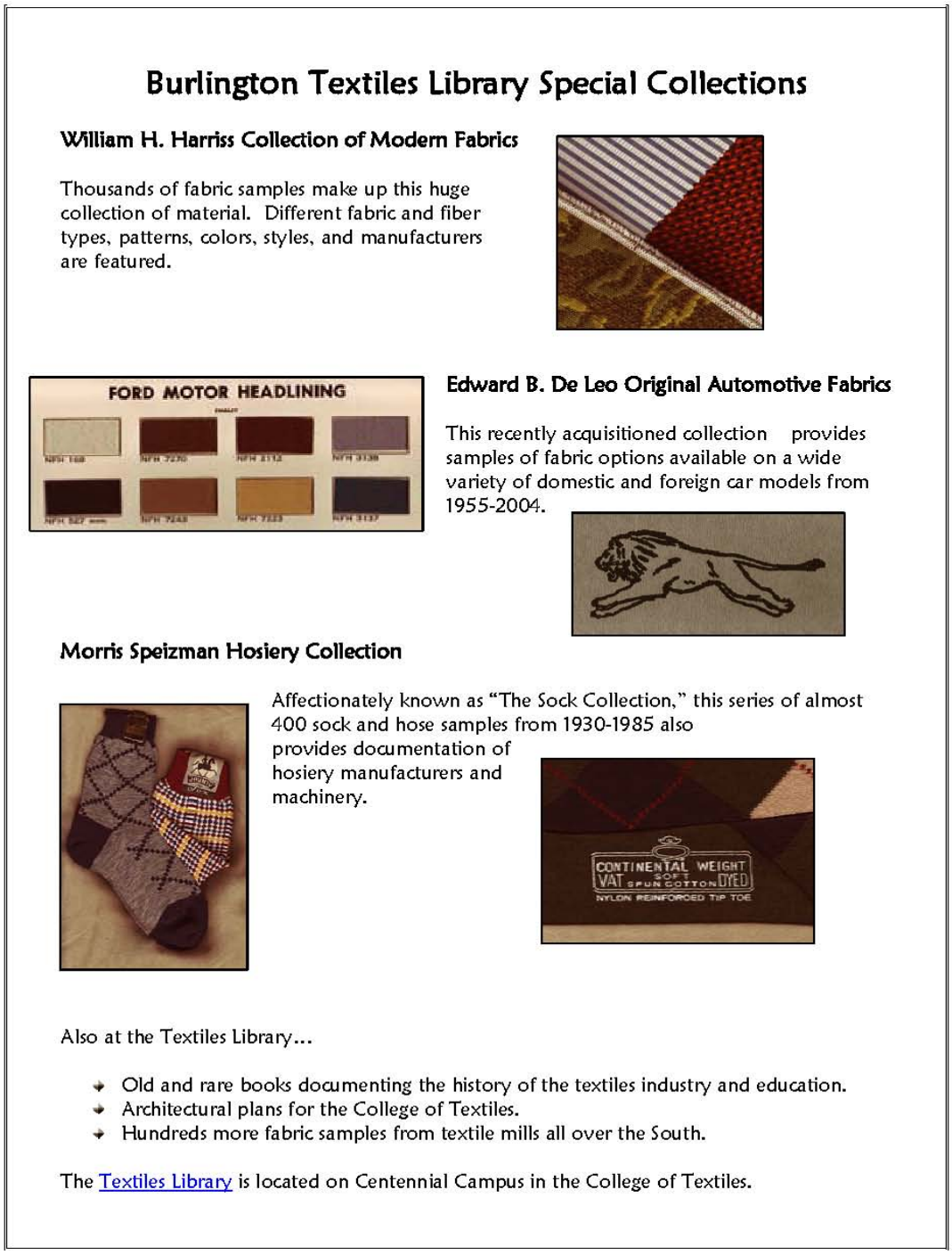
☐ Personal collection(s)

☐ Textiles Library

☐ Other libraries

☐ Department

☐ Other: _____



Burlington Textiles Library Special Collections

William H. Harriss Collection of Modern Fabrics

Thousands of fabric samples make up this huge collection of material. Different fabric and fiber types, patterns, colors, styles, and manufacturers are featured.

Edward B. De Leo Original Automotive Fabrics

This recently acquisitioned collection provides samples of fabric options available on a wide variety of domestic and foreign car models from 1955-2004.

Morris Speizman Hosiery Collection

Affectionately known as "The Sock Collection," this series of almost 400 sock and hose samples from 1930-1985 also provides documentation of hosiery manufacturers and machinery.

Also at the Textiles Library…

- Old and rare books documenting the history of the textiles industry and education.
- Architectural plans for the College of Textiles.
- Hundreds more fabric samples from textile mills all over the South.

The Textiles Library is located on Centennial Campus in the College of Textiles.

Burlington Textiles Library Special Collections flyer, North Carolina State University Libraries, 2006.

8. Were you aware of the collections of fabric samples available in the Textiles Library?

○ I am aware of the fabric collections.

○ I was aware of SOME of the collections.

○ I was NOT aware of the collections. *(If not, skip to question 12.)*

9. How did you hear of any collections you were aware of?

☐ Consultation with library staff

☐ Word of mouth

☐ Suggested acquisition

☐ Library catalog

☐ Other: _____

10. Have you used the fabrics from any of these collections?

☐ Harriss Collection of Historical Fabrics

☐ Speizman Hosiery Collection

☐ Other samples from the Textiles Library

☐ Not sure which collection

☐ Have not used any

11. For what purpose did you use the textile samples?

_____

12. How did you look for samples to use?

☐ Searched specific terms in an index

☐ Browsed the collection(s)

☐ Consulted a librarian

☐ Other: _____

13. Now that you know a little more about what the Textiles Library has, for what purpose would you use the textile and fabric samples available?

_____

14. Would you recommend the development of a digital resource including images of fabric samples?

○ Yes *(skip question 16)* ○ No *(If no, skip questions 14 & 15)*

15. What information, metadata, would be useful to record for each sample?

☐ Manufacturer
☐ Location of manufacturer
☐ Vendor
☐ Weight
☐ Construction
☐ Date(s) or date range
☐ Manufacturing process
☐ Fiber content
☐ Cloth structure
☐ Machinery
☐ End use
☐ Function
☐ Product
☐ Dimensions ☐ Color
☐ Pattern
☐ Origin
☐ Patterning technique
☐ Finish
☐ Fabric type/raw materials
☐ Patent associations
☐ Texture
☐ Image
☐ Designer
☐ Copyright holder
☐ All of the above
☐ None of the above
☐ Other:_____

16. For what purpose would use such a resource?

_____

17. If you did not recommend the development of a digital resource of samples, why not?

_____

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