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Advances in Library Administration and Organization

Delmus E. Williams
James M. Nyce
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Editors

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ADVANCES IN LIBRARY ADMINISTRATION AND ORGANIZATION

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Series Editors: Delmus E. Williams, James M. Nyce and Janine Golden

Recent Volumes:

ADVANCES IN LIBRARY ADMINISTRATION AND ORGANIZATION

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INTRODUCTION

From the beginning, *Advances in Library Administration and Organization* has sought to develop a body of research literature that could, at once, contribute to the base of organizational theory upon which library administrators rely. The intention is to bring to light good scholarship that strengthens and reinforces the base of knowledge library administrators have on hand. Librarians are very good at working pragmatically to solve difficult problems, but they have been less good at explaining to themselves and to others how and why they do what they do and what they contribute to the common good. That was why I jumped at the chance to provide an article for Volume 2 of the series, agreed to help edit ALAO beginning with Volume 13, and now, along with my co-editors, present to you Volume 28. Through these many years, I have enjoyed the opportunity to help make this series what it has become, in addressing the challenge it has presented to find people who think about how libraries and library administrators work and to bring their ideas to the public. This volume follows a pattern to which you have become accustomed. It includes seven studies from the United States and Canada on topics relating to problems library managers face and strategies that might be of value in addressing those challenges. As always, we the editors hope that you find them interesting and as thought-provoking as we have.

The lead article by Donald L. Gilstrap is a case study designed to provide insight into how research librarians address change. He interviewed 17 librarians working for a member of the Association of Research Libraries using a clustering technique and semi-structured interviewing and then incorporated the resulting data using a collective case method. The result is an interesting read about competing tensions between the physical and the virtual environments, the speed of change, the search for professional meaning, and coping with the experiences of professional change. The study explores the nuances of coping with a hypercritical organization operating within a complex system.

An article drawn from a very different study done by Jean K. Mulhern follows. Jean leads a small college library and has been a key player in the organization of OPAL, a consortium founded specifically to allow small

colleges in Ohio to participate in and benefit from a statewide network called OhioLINK. She explores whether this and other consortia are agile organizations with the leadership capacity to respond quickly to changes in the environment. Her case study talks about the organization of the network and then expands to consider how the consortia and its development opened its members to new ideas and served as a bridge to expanded opportunities for those libraries and those they serve. Jean does a good job of explaining the ''coming together'' process and gives insight into both the vision and the practicality of molding these libraries into a group. In addition, as a participant, she offers a bird's eye view of the impact this kind of association can have on the development of small, isolated institutions and those who work in them.

Catherine Maskell's work then continues with a different kind of discussion relating to consortial activity among academic libraries. Specifically, she asks whether library consortia are a public good or whether their activities as purchasing agents for groups of libraries are leading toward anti-competitive activities. She contends that most university librarians view the work of consortia as something that helps them provide more information to more people more efficiently. However, she offers an alternative view that, in their efforts to interact with publishers both as consumers and as aggregators of information themselves, they may be changing the relationship between academic libraries and publishers. This change tests the balance between libraries' roles as consumers of information and competitors in the dissemination of information in a way that could attract the attention of those who make policy regarding competition. This discussion takes place in a Canadian context, but it addresses an interesting and intriguing question for any of us who live in countries where the market economy is valued and where cartels are regulated.

Lisa K. Hussey's article represents an abrupt change in direction as she tackles questions related to diversity within Library and Information Science. She notes that, while our profession has long recognized the need for diversity, more needs to be done to determine how we might recruit more minorities to the field. She interviewed students from protected classes in several library schools, asking them why they decided to become librarians and what might motivate others to join them. Her findings about the relationship between recruitment, identity, and acculturation are useful and offer insights into this important topic.

Barbara J. Stites is concerned with the need to keep librarians abreast of the many changes that are occurring in our community. It has often been stressed that librarians must continuously upgrade their skills by participating in

library organizations and professional development activities, and this emphasis has increased in recent years. Stites sees an urgency in efforts to enhance our understanding of what we are doing and a need to examine what we are doing to train those with whom we work to insure its effectiveness. Her study documents evaluation practices currently used in library training and continuing education programs for library employees to determine how they evaluate training, what kind of training evaluation practices are in place, and how they determine the return-on-investment of programs that are mounted and supported by the organization.

Stephen H. Aby in his article then looks at faculty unionization as it pertains to librarians. Unionization in academic libraries is growing, and, while there is some literature available that talks about its impact on salaries and benefits, there is little available about how well collective bargaining contracts address the sometimes unique nature of library faculty work. This article explores how well existing contracts in a number of Ohio universities and from selective institutions around the country accommodate the professional and work-related needs of librarians, dealing with issues like governance, academic freedom, workload, salary, and the retention, tenure, and the promotion of faculty.

In the final article, Bella Karr Gerlich addresses the fact that reference services are changing and that we need to develop a better understanding of their current state, particularly in a networked environment. Her study is designed to investigate those circumstances and conditions that bear – directly and indirectly – on changes in the nature, form, substance, and effects of those services as seen through the eyes of reference librarian. She has assessed the causes and impact of changes in reference services in the context of a medium-sized private university with a national reputation for successfully integrating information technologies into the educational process with a view toward developing metrics that might be used in evaluating those services and the personnel who provide them.

This volume, like most of the others produced in this series, is unapologetically eclectic. While it may lack a theme, it is not lacking in content, and we hope that you will find here thought-provoking ideas that will inform and challenge.

Delmus E. Williams
Co-Editor

LIBRARIANS AND THE COMPLEXITY OF INDIVIDUAL AND ORGANIZATIONAL CHANGE: CASE STUDY FINDINGS OF AN EMERGENT RESEARCH LIBRARY

Donald L. Gilstrap

ABSTRACT

The purpose of this case study was to increase the knowledge base of how research librarians experience and cope with the turbulence of change within their library system. A library belonging to the Association of Research Libraries was selected for case study investigation. Seventeen librarians participated in on-site interviews, utilizing a protocol composed of a clustering technique and semi-structured interviewing. Instrumental case studies of each individual were then developed through a collective case method. The findings presented in this chapter include: the competing tensions between the physical and virtual environments, the speed of change, the search for professional meaning, and coping with the experiences of professional change. Analysis of the findings suggest: the emergence of a hypercritical state, the limiting nature of negative feedback, a complex systems framework for professional thinking, and coping in the hypercritical organization.

INTRODUCTION

> Now, think back to the first day on your current job. How did it change from your first
> job to your present job? How has your current job changed from day one to today? How
> has it changed from last week? Is the last statement tongue in cheek? Sarcastic? We don't
> think so. Our jobs are changing so rapidly it may seem as if we are, like Kirk and Scott,
> hurtling through space at warp speed and we sometimes think, as Scotty was always fond
> of saying, we 'canna take any more.' (Osif & Harwood, 1999, p. 224)

It is little secret that academic librarians have seen several major changes within their libraries over the past 20 years. These changes have been driven primarily by different external and internal shifts in access to information and expectations by academic and stakeholder communities. Librarians are faced with challenges to their traditional services with the rise in consumer use of virtual resources, the proliferation of search engines that link to gray literature, and new publishing and pricing models for academic research. Librarians are additionally confronted with decreased funding from federal and state agencies, leading to difficult decisions on which services, programs, and collections to maintain (De Rosa et al., 2005). Moreover, librarians now use technology to a high degree in the dissemination and diffusion of knowledge among scholarly publishers and users of university research. But the rapid technological integration of new tools for research while maintaining traditional print collections places demands on librarians for continual learning that sometimes appear both complementary and contradictory. Major differences in viewing these challenges over the past few years from previous decades, however, are the increasing speed and complexity that are now associated with changes in academic libraries. Librarians might describe their evolving professional life at present as an environment of turbulence: a paradox of "commotion, agitation, or disturbance" that concurrently "is of natural conditions" (Simpson & Weiner, 2001); one that breaks from the traditional history of equilibrium, control, and stability. These rapid and increasing changes have created environments of uncertainty for academic librarians and suggest shifts in professional and organizational thinking.

Changing Roles of Librarians

Roles of academic librarians now include more substantially the need for educating students, faculty, and themselves to keep up with the evolving aspects of research and information resources in a technological environment. The Internet has created increased student reliance on a tremendous amount of gray literature that professionals argue has led to a crisis of

quality information (Williams, 2001). At the same time students and sometimes even faculty, who are unfamiliar with the critical analysis methods for web-based resources often begin or perform research entirely with search engines such as Yahoo or Google (De Rosa et al., 2005). And the use of online search engines has led students to rate their self-efficacy of academic research at much higher levels than their actual ability to perform this research has shown (Dunn, 2002; Maughan, 2001). Many academic libraries now incorporate library instruction and information literacy programs that help students critically analyze and use different mediums of research information. In spite of these efforts, "librarians are put in the unfortunate position of telling people to eat their spinach, that fast food searching isn't enough" (Wilson, 2004, p. 11).

Librarians are also dealing with the graying of the profession. Fewer students are matriculating from library science graduate programs in relation to population demands. Oftentimes, their absence in these programs reflects general student misperceptions of what the academic library world is like. Potential students sometimes view librarians through stereotypical frameworks of bibliophiles who are concerned with rules and order over access and management of information through the use of technology. This phenomenon has made recruitment efforts to fill positions that have come open due to retirements difficult (Fennewald & Stachacz, 2005; Unabashed librarian, 2003). Moreover, the increased need for academic librarians to have both broad and specific technology skill sets has led at least one library pundit, James Neal, to argue that "there will be fewer librarians working in academic libraries because of a significant increase in the number of technical staff" (Riggs, 1997, p. 6). In addition to the stress of this uncertain future, while librarians deal with many new changes in their environments, they are frequently working understaffed while trying to fill open positions or are dealing with setbacks from attrition or retrenchment (Rogers, 2004; White, 1985).

There has also been an exponential growth of scholarly information produced by the research community. Higher expectations for publication among university faculty combined with the power technology brings to conduct and present research contribute to this trend. Managing these growing collections and providing access to the overwhelming amount of new electronic resources that become available on a daily basis has become a daunting challenge for librarians, and traditional models of collection development are, therefore, beginning to crumble. Moreover, escalating subscription prices for scholarly publications, primarily in the hard sciences, have forced librarians to make tough decisions about the maintenance of

expensive print collections (Glogoff, 2001). Frequently, this is conflicted with the expectations of those faculty who tend to focus on the maintenance of traditional printed mediums while, at the same time, expect expanded access to electronic resources (Jankowska, 2004; Wisneski, 2005). Research librarians additionally struggle with their professional obligation to preserve the human record of scholarly research while trying to lead their libraries into a digital future. Consequently, these issues bring about a ''disconnect between the library's organizational self-understanding and the institution's understanding about the library'' (Stephens & Russell, 2004, p. 246).

Responding to Change

Librarians now deal with heightened emotional responses to shifts in the profession. However, some argue these professional shifts might be necessary for the survival of libraries (Glogoff, 2001; Weiner, 2003). Researchers in library science have noted that the changes that are coming in the future will be transformative professional and organizational changes that will challenge the core philosophies and structures of research libraries (Goble, 1997; Riggs, 1997, 1998, 2001; Weiner, 2003). In their view, librarians can no longer react to the changes that are taking place through incremental approaches. Much like the case with most technology-oriented organizations, "libraries that select comfortable, traditional, but increasingly marginal, roles risk becoming more marginalized and increasingly irrelevant to the central focus of information access and scholarly discourse" (Weiner, 2003, p. 70).

Some library organizational development theorists would go so far as to argue that this debate has ensued for much of the twentieth century. Ranganathan (1963) first proposed an organic view of libraries as living systems during the mid-century. He suggested that libraries function much like an ecosystem, responding to controlling and amplifying feedback. In the Association of Research Libraries (ARL), Webster (1973) developed a guide for library administrators that challenged traditional organizational ways of thinking. Relying on contemporary organizational development theorists such as Argyris (1971) and McGregor (1960), he suggested a transformative approach to organize libraries and management decision-making that called into question many of the common practices of the time. Yet, research libraries were slow to adopt these new systems-oriented concepts until the end of the twentieth century.

Technological advancements in libraries have equally increased the speed of change exponentially. Some research librarians have managed to face this

turbulent environment and lead their libraries into a brighter technological future. Historically, many librarians have been leaders on campuses in adopting and implementing new technologies, converting their card catalog systems to online catalogs during the 1980s. Academic librarians were also some of the first people on campuses to capitalize on web-based resources, transferring collections to electronic formats, implementing online databases, and moving technology centers to their own buildings. Evidence of these technological and organizational changes has led some researchers to argue that libraries are actually changing faster than their universities (Riggs, 1997). As Goble (1997) notes, "change is not new to librarians. What is different is that change is no longer intermittent. It is constant, and its pace is accelerating" (p. 151). However, the multitude of disparate changes and competing tensions librarians face is somewhat overwhelming (Osif & Harwood, 1999). Moreover, little is actually known about how librarians experience and cope with these changes.

These factors have led academic librarians to respond to this changing environment in different ways. Some librarians have been more reactive, focusing on traditional organizational structures and collection policies as an attempt to harness this changing environment in incremental steps (Stephens & Russell, 2004; Weiner, 2003). Librarians at other institutions have taken more progressive approaches in implementing radical changes in organizational structures, communication patterns, and methods of delivery for library services. These types of changes have often been identified through "fundamental paradigm shifts" that focus on the process of innovation which "has value in providing a means to an end beyond itself" (Weiner, 2003, p. 74). Some of these librarians have incorporated organizational structures that are more organic in nature and are able to adapt more easily to rapid decision-making (Giesecke, Michalak, & Franklin, 1997; Kascus, 2004; Phipps, 2004).

Statement of the Problem and Purpose of Study

Many academic librarians are, therefore, undergoing turbulent and transformative changes in their libraries. These changes are brought on largely by shifts in scholarly mediums of publication, dissemination, and access to information, but they are also influenced by changing educational practices, competing external resources, decreased funding, and conflicting expectations of information needs by students and faculty. As Stacey (2003) has argued, "human emotions … are thus all social processes individually

experienced through variations'' (p. 326). However, much of the research has focused on libraries as ''things'' while ignoring librarians as human beings.

At the same time, practices among many academic librarians continue not only to focus on but also to promote the organizational management concepts of Frederick Taylor (1911) (Stueart & Moran, 2002). As a result, these traditional management concepts of control, efficiency, and stability are not designed to encourage librarians to lead transformative changes, and they oftentimes limit the ability of librarians to expedite change at the rate needed for long-term, organizational survival (Goble, 1997; Kaarnst-Brown, Nicholson, von Dran, & Stanton, 2004; Phipps, 2004; Stephens & Russell, 2004). Consequently, there have been many emerging paradoxes in the research librarian community, similar to Morgan's (1997) concept of competing tensions that lead to organizational environments of uncertainty and unpredictability.

According to Stephens and Russell (2004), librarians now require models that focus on adaptation to the environment while studying cases that manifest the connection between individual and organizational transitions. Although there is an increasing amount of new literature recommending a shift in organizational structures and leadership philosophy, research shows our knowledge is to be extremely limited with respect to the effects of these shifts librarians. It was the purpose of this research to increase the knowledge base of how research librarians experience and cope with the turbulence of change within their library. This research also examined the issues that surround the organizational structures and leadership of transformative change in a research library.

Research Questions

- What experiences do librarians associate with an environment of rapid change, uncertainty, and turbulence?
- What specific changes do they regard as having the most profound effects on their work lives?
- How do research librarians respond to their organizational structure?
- In what ways do librarians as individuals contribute to the leadership of the library?

The findings in this chapter *specifically* address the first two research questions, but it should be noted that a more comprehensive examination of all these issues is also available (Gilstrap, 2007b).

LITERATURE REVIEW

The literature review that accompanies this study contains a broad theoretical base, including complexity theory, organizational theory, leadership theory, library organizational development theory, and individual change theory. The intent of this researcher was to incorporate a wide range of theories that can help in understanding and interpreting the complex phenomena that emerge while studying a research library going through change. The evolution of these theoretical frameworks is included to develop the contextual and philosophical foundations for later data analysis and interpretation of findings. For the confines of this chapter, a general taxonomy is described, and further exploration of these theoretical frameworks and numerous studies that support these theories is encouraged.

Theories X, Y, and Z move from an authoritarian and confrontational relationship between worker and administrator toward a democracy-centered and inclusive framework of organizational dynamics (Argyris, 1957, 1960; McGregor, 1960; Ouchi, 1981). Normative and transactional theories rely on the identification of behavioral traits and the implementation or reciprocal relationships in the workplace (Avolio & Bass, 2002; Blake & Mouton, 1978, 1981, 1985; Blake, Mouton, & Williams, 1981; Burns, 1979, 2003). Situational leadership includes assessing worker willingness and readiness while subsequently adjusting leader responsiveness (Hersey & Blanchard, 1969/1993). Shared leadership focuses on the team environment, where individuals become accountable for the leadership and organizational development of the group through structures and processes (Carew, Parisi-Carew, & Blanchard, 1986; Yukl, 2002). Transformational leadership moves organizational development away from individual wants and needs, reflecting group purposes more developed than self-actualization (Avolio & Bass, 2002; Bass, 1998; Burns, 1979, 2003).

Systems theories of individual and organizational development and change are engineered from natural, ecological processes that reflect the relationships of humans within the larger environment of the organization (Ackoff, 1981, 1994; Argyris, 1990, 1992; Argyris & Schön, 1974, 1978; Ashby, 1956; Holloway, 2004; Lewin,1951; Ranganathan, 1963; Schön, 1971, 1991; Senge, 1994, 2004; Stephens & Russell, 2004; von Bertalanffy, 1968/1973; Webster, 1973). Transitional and transformational theories of development highlight the psycho-social processes inherent among individuals within an organization going through significant change (Abraham & Gilgen, 1995; Bergson, 1911; Bridges, 2004, 2003; Buch, 1997; Burlingame, Fuhriman, & Barnum, 1995; Carver & Scheier, 1998; Dewey & Bentley, 1975; Goerner, 1995;

Mezirow, 1991). And complexity science theories extend the systems
theoretical framework, identifying the concepts of emergence, interconnect-
edness, turbulence, and self-organization in groups operating as dissipative,
chaotic, or complex systems (Bak, 1996; Bateson, 1972; Gallagher &
Appenzeller, 1999; Davis, 2005; Doll, 1993; Fleener, 2002; Gilstrap, 2007a;
Lorenz, 1963; Mandelbrot, 1975; Morgan, 1997; Osberg & Biesta, 2007;
Pascale, Millemann, & Gioja, 2000; Prigogine & Stengers, 1984; Stacey,
1992, 2003; Waldrop, 1992).

METHODOLOGY

An ARL institution library was identified for participation in this case study
as exemplifying the transformative change process among research libraries.
This library ranked near the ARL median and had participated in two
organizational restructuring activities within the past 15 years. A preliminary
survey dealing with professional changes was sent to all librarians, and
approximately half of these librarians responded. As Denzin and Lincoln
(1994) have consistently suggested in qualitative research, purposive
sampling was conducted based on the responses to the preliminary survey.
Seventeen librarians (Table 1) were chosen for on-site interviewing based on
the richness of description of their responses, and on-site interviews consisted
of an open-ended clustering technique where participants were asked to draw

Table 1.   Demographic Information of Case Study Participants.

Demographic	*n*
Female	8
Male	9
Mean age	51
Median age	56
Youngest participant age	36
Oldest participant sge	63
Mean years of experience as an academic librarian	21
Number holding second subject masters or Ph.D. in addition to M.L.S.	10
Administrators or managers	7
Supervisors	5
Nonsupervisors	5
Number of branch librarians	3
Number in collections or technical areas	7
Number in public services areas	8
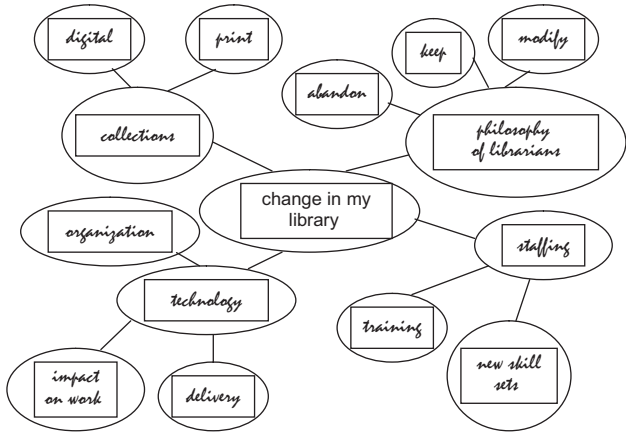
Fig. 1. Example of Clustering Technique Used during Interviews.

a concept map around the phrase, ''change in my library'' (Fig. 1). After the clustering portion of the interview was completed, semi-structured questions from the interview protocol were asked of each participant. Owing to institutional review board policies at both the participating institution and the institution of the researcher, anonymity of this research library and the librarians is further preserved through the use of pseudonyms. Case study instrumental and intrinsic data (Stake, 1995) were iteratively analyzed through a broad theoretical framework included in the literature, and four major themes that emerged through this analysis are reported in the following findings section.

RESEARCH FINDINGS

Introduction: Intrinsic Case Study Findings of the Organization

Six main themes emerged during intrinsic case study analysis of the East Coast University (ECU) Libraries as an organization from data collected from on-site instrumental case study interviews (Fig. 2). These themes spanned the breadth of experiences each librarian attributed to change, given his or her individual perspectives on the organization. The first two main research questions for this study are: (1) ''What experiences do librarians associate with an environment of rapid change, uncertainty, and turbulence?'' and (2) ''What specific changes do librarians regard as having
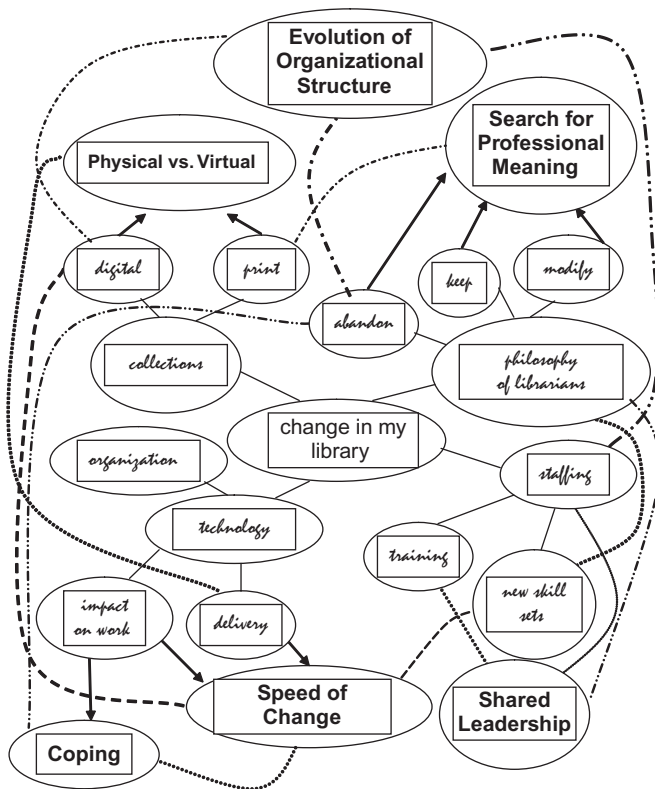
Fig. 2.   Concept Map of Intrinsic Themes Emerging from Instrumental Case Clustering.

the most profound effects on their work life?'' The four themes responding
to the first two research questions on which this chapter is focused include:
Competing tensions between the physical and the virtual environments, the
speed of change, the search for professional meaning, and coping with the
experiences of professional change.

Theme One: Competing Tensions between the
Physical and Virtual Environments

Research librarians have begun the new century with many challenges facing
the future directions of the profession. One of the most apparent issues for
librarians, the users of library resources, and university administrators has

been a significant shift in focus from the print to the virtual library. In the past, research librarians defined themselves by print collections and boasted about the size of these physical collections. As more and more digital resources became available at the ECU Libraries, the maintenance of a print environment became an increasing challenge for the librarians. As a result, the ECU Libraries have significantly slowed collection development of print resources, moving toward a model of electronic-only where possible. Granted, this shift excludes the library's special collections, and, rather, integrates digital objects along side the preservation of rare items. But changes in the focus of overall collection development have led almost all librarians to respond with some emotion in favor of or against this trend. And the decrease in maintenance of print items challenges librarians to think in new ways about how to use the physical library building in the future.

Since the ECU Libraries have taken an active role in the shift from the physical to the virtual environment, this new focus has been a major catalyst for change within the organization. The library has decided to forego the purchase of a remote storage facility, since librarians at ECU have watched their peers at other institutions fill these storage units quickly while still running out of space. As a result, librarians at ECU have made a conscious decision to select electronic items over print and discard duplicate print copies. Library staff members have traditionally processed the print item, but work is now focused on providing access to electronic resources. The ECU Libraries outsource much of their processing of the remaining print items to receive "shelf-ready" materials from their book vendors. Though many academic libraries focus fully on cataloging data in the international standard MAchine Readable Cataloging (MARC) format, the ECU Libraries now have time to integrate an increasing amount of non-MARC metadata, using the extensible markup language (XML) and the Dublin Core standards. However, this shift in focus requires continual re-training to enrich data associated with the new digital resources.

Space issues have in recent years been of major concern in research libraries. In some ways, this trend could be viewed as a microcosm of the space issues faced by the university at large, as the number of students and faculty has increased on most comprehensive university campuses. At ECU, every campus in the state system has been asked to implement new programs, but, physically, where to place the students in these new programs has been perceived by some to have reached a critical level. So administrators identify the library at their campus as one solution to their space dilemmas. As an example, Paul, who manages a branch library, recognizes this growing tension between librarians and campus administrators and points out that,

"they walk around and ask, 'isn't it true people don't use books anymore, and isn't it true a whole lot of your space is taken up with book stacks?' Well … yeah [laughing]." At the same time, Paul presents a challenging argument to campus administrators that if they walk around several of the classrooms on campus, they will find many empty at any given hour and day of the week. For the same reasons that research libraries have to confront space issues through new services and technologies, this trend in libraries might signal a broader need to analyze the use of space, and subsequent scheduling, on university campuses in general.

The administration of current physical and virtual environments has also challenged librarians to differentiate between the library as place versus doing something in the building. If students primarily go to the library to get a cup of coffee and find a corner in which to study, then the purpose of the library as a physical space shifts dramatically. Moreover, if journal subscriptions and books move increasingly to electronic access, then storage of items in the physical building becomes somewhat obsolete with the exception of maintaining physical items to support statistical rankings. On this issue, Bill, who has administered work with both print and digital items processing, suggests that most physical items can be stored in off-site storage facilities while being shared by several research libraries in a consortium. But given that the shift to a virtual library is taking place at the ECU Libraries, he questions how the space that is left will be utilized most effectively.

This emphasis on digital over print resources has become a critical aspect of the ECU librarians' vision of the future. The library previously had a consultant come in who asked how much of their collection budget was devoted to electronic-only purchases. After the library's administration proudly remarked, 70 per cent, the consultant asked "why isn't that one hundred percent?" This was a fairly reasonable question to ask of research libraries in the age of digital resources, but events like this reflect marker events in individual librarians' professional lives. As an example, librarians had spent many years developing the print collections and watching them grow. James, a mid-career librarian who has worked with collection development and library instruction, indicates that ECU librarians were now given the difficult task to begin weeding out the collection at a much more dramatic pace than in the past:

> It's one of those traditional librarian roles that just never was much fun in the past. And now it's definitely not something that anyone is excited about doing. But it's just as critical as it has always been … we have a real space crunch.

The reference unit in the ECU Libraries is another area that has been affected by the shift from print to electronic resources, impacting the psychological perceptions of librarians working in this unit. In the past years, the reference department proudly proclaimed how many thousands of volumes were in the reference collection, and these librarians had spent a considerable number of years building up that collection. Almost overnight the collection was cut in half in favor of online reference sources. Elizabeth, a young librarian new to her work in instructional services but with experience in other university academic units, argues that the decision to do this was critical for the survival of the ECU Libraries. However, some librarians at ECU now feel lost and are having a hard time transitioning away from the collection of physical items.

A parallel view of space issues also emerged during the discussion of the shift from the print to the virtual environment. Although freeing up space in the library by weeding out books has been successful at ECU, the demands for digital resources have placed a new set of requirements on the virtual spaces found on the library's networked servers. In effect, the space issue has not disappeared; rather it has shifted from the physical building to networked infrastructure. And this requires a new focus on how administrative decisions are made to support this digital environment. The new challenge has evolved toward trying to find enough server storage space and resources to house the digital items that have been created at the ECU Libraries. Robert, who works primarily with digital resources, notes for example that this will become an even more critical issue as the ECU Libraries expand access to information in online video and audio used for course reserves and special collections. Consequently, as the ECU librarians respond to physical space issues in the future, this demand for virtual space will continue to grow.

Theme Two: The Speed of Change

Many of the specific issues surrounding both changes at the individual level and how librarians cope with these transitions involve the speed of change itself. Though some librarians find the speed to be too fast, others find the speed slow and rigid. However, technology serves as a catalyst for the speed of the changing environment at the ECU Libraries in both proscribed and unintentional ways that lead to further complexity of the services and resources librarians provide to the university community. Limitations in the university structure, capital and human resources, and the external business

community also prohibit librarians from affecting change at a faster pace. And at the same time, the rapidity and constancy of the changing organizational environment increases levels of professional tension among the librarians.

Technology as a Catalyst for Change
Technology understandably contributes to many of the service shifts in academic librarianship today. As new library technologies emerge on a daily basis, librarians respond to the changing external environment to provide services and resources in a contemporary fashion. Equally, the integration of new technologies is applied to help transform the organizational structure of the ECU Libraries through continual adaptation to the changing student body. The librarians in this study indicate that technology has been a major impetus for change at the ECU Libraries, but they also note that it encompasses several different aspects of a changing profession. On the one hand, technology has been a very empowering tool for freeing up space in the library and making daily tasks more efficient. On the other, technology makes librarians somewhat nervous about the future, because it confronts the core values of librarianship. As an example, Elizabeth, who is new to the career of librarianship and who works in an educational role, shows how the use of electronic databases has entirely changed the way library instruction is taught at the ECU Libraries in the course of only a few years:

> I find myself with instruction shifting the way I talk about things. From, 'you better know how to find it in print', to 'let's go looking for it in full text, but don't forget there might be print if you *have* to use it.' It's a totally different way of talking about things, of thinking about things.

These shifts in professional thinking as a result of technology cause librarians to speculate whether the changes at ECU are more successful because of technology or if sometimes technology drives the change.

Although technology has solved problems brought on by growing collections and services, it has brought, at the same time, new problems that are equally, if not more, complex in nature. Technology has greatly assisted the librarians at ECU to transition into the future, and most of the librarians self-identify their preference for the use of new technologies. However, all of these changes have required new equipment, new training, new network architectures, and an increasingly complex communication network with appropriate university officials: from carpenters to network technicians to legal counsel. And, because this network of both hardware and the people required to implement it is now so complicated, librarians have to

be very selective in what they choose to integrate. Furthering this argument, Laura, who supervises a unit that oversees technology used for public services, states that it becomes critical to plan for the obsolescence of old practices to integrate the new technologies. But, due to the limitations in librarians' abilities to predict far into the future, a significant challenge comes in knowing what to give up, when to do it, and how to plan for that abandonment.

Adding value to services that are provided primarily through the World Wide Web also becomes problematic. As librarians do not always know how to transfer skill sets in new, technologically oriented ways, grounding user expectations in the academic setting becomes increasingly difficult. As an example, Ted, who has worked in a branch library for many years, questions whether student use of certain technological products drives the changes taking place at the ECU Libraries. He states that he wonders whether RSS feeds and facebook.com pages in research libraries add any value to services. At the same time traditional collection development practices do not exist on the Web, and incorporating strategies that adapt to student and faculty use of technology becomes more critical in convincing the university community that librarians do something that adds value; or, as Ted comments, "that you're not an appendage of the Internet." Phillip, the library's director, extends this perspective by arguing that disseminating information in ways that are commonly used in society is crucial for the future of academic librarianship. If librarians do not embrace these changes, they will continue to lose ground at academic institutions, because library users will find ways to get the information they need if the library does not provide it in a contemporary fashion.

Technology can also be seen as a panacea for dealing with the inefficiencies of the print environment. With the rise in newer student expectations for a Web framework in which everything is in full text, some librarians believe that the library should abandon print collections wherever possible. Christina, for example, who is new to the profession and fully embraces technological change, states that she has become increasingly frustrated with any continued focus on collecting print resources. Although the ECU Libraries have been particularly active in this collection development strategy, she states that academic librarianship as a profession cannot break free from the frame of reference of the print environment:

> [The ECU Libraries] are OK with not buying a print copy of a book if it's online. And if the online goes down for a couple of hours, nobody in this library is going to die … I don't know how any librarian could *not* feel that way; this whole idea that you need to retain print.

Katherine, a librarian new to the ECU Libraries who primarily works with technology, equally sympathizes with this shift in collection development. She comments that, "honestly, when I'm at the reference desk, I don't want to send people to the paper stacks if I can possibly avoid it."

Limitations in Affecting Change
One of the particularly frustrating issues that accompanies change at the ECU Libraries has to do with the actual purchase of new products or technology. A large amount of time may be spent on evaluating and making recommendations for new software that will help improve the ECU Libraries' further transition into a digital environment. But once the selection has been made, librarians note that months can transpire in the university's purchasing or legal units before the product is actually implemented. Whereas some might argue that the library is not changing fast enough, librarians argue just as often that the university's bureaucracy cannot keep up with changes the ECU Libraries need to make. As a result, ECU librarians comment that they are given an unfair reputation of being resistant to change when in actuality the university structure prevents them from becoming more effective change agents.

Technology also becomes a system agent that adds further complexity when trying to move the library into the future. Again, many librarians note that they bear the brunt of criticisms by students and faculty about the library's technology when it cannot compete with enterprise technologies like Yahoo or Google. As an example, James, who has contributed to the ECU Libraries' migrations to two different integrated library management systems, states that online catalog systems supplied by corporate vendors continue to use technology that is "straight out of the 70s." Librarians at ECU know the improvements that need to be made to this technology and, as beta partners, provide the knowledge and feedback to the vendors to make these changes on a weekly basis. Moreover, there is a tremendous investment made in these products, and, since the library has little ability within the overall structure of the university to pursue litigation, many librarians believe there is no way to confront the failure of these vendors.

There is a paradox that emerges in observing research libraries that try to compete with large corporations for similar product development. One of the most frustrating elements of being a research librarian is that much of the knowledge needed to create new products already exists among librarians. However, there is a lack of time and resources to implement these services. As an example, the librarians at ECU have many of the technological skills and the desire to be able to implement online audio and

video for course reserves, adding more value to services that would expand access to these resources for students and faculty regardless of time or geographic location. Equally, this model could effectively replace physical nonprint items that are currently held on reserve. Moreover, as information resources in research libraries evolve beyond traditional text-based items, the library's ability to support these new mediums of information will become critical. But the required equipment and product development are cost prohibitive for research libraries let alone smaller academic libraries.

Many ARL libraries become beta-sites for vendors to develop products as a way to address the lack of in-house resources. Some of these vendors give the ECU Libraries discounts in pricing in return for their agreeing to become a beta-site. But in reality, the ECU Libraries do significant product development of vendor software, including a large investment of human resources and intellectual capital from which the vendors benefit later on with other libraries. Christina, who brings experience from having worked in the corporate technology sector, laughs as she describes this model, arguing that any other company in the same situation would actually be *paid* to be a beta-site, rather than merely receiving discounts. Moreover, there oftentimes are no other vendors that provide better services, so being a beta-site is one of the only methods librarians believe they have to bring the vendors up to speed with the technology needs of twenty-first century research libraries. The frustrations that arise from this situation are highlighted by Elizabeth, who deeply questions the slowness of change when teaching library research, in her response to vendor limitations:

> If change is so good and so essential, why isn't it just happening? Why aren't we in the twenty-second century with technology, and why aren't librarians inventing the technology? … Change is certainly possible, but you can't just will it, however passionate you are about change.

Although the open source movement has received great attention recently in research libraries (Breeding, 2007a, 2007b; Pace, 2006), many ARL libraries do not have the capital to invest in equipment, people, and resources to create products that compete with vendors in the business community. Or, conversely, strategic priorities might move in this direction in the near future.

Another feature that emerged through the course of interviews concerned how quickly librarians are able to respond to change with the rise of so many communication technologies. Granted, email, wikis, listservs, and intranets have massively integrated and provided access to information in ways that enable librarians to absorb and share a great deal of knowledge in much faster ways. Several librarians comment that the real challenge comes

when the involvement of so many people actually slows down the process of implementing change, as Lisa, a library administrator in a public services area, recounts:

> Sometimes change is very slow. You can't always have an impact, and it doesn't always go smoothly when you're working with a group of people. It also feels like the process can be slow, because you're consulting everyone.

At the broader professional level, research libraries have not been able to create and implement standards fast enough to keep up with technology due to the involvement of so many people in different online working groups. Robert, as an example, commented that he first chose to pursue an MLS because of the predicted mass digitization that was soon to take place. However, 10 years later, many of the metadata standards that apply to both the academic and private sectors are still in nascent stages, so many research libraries are left on their own to create or enhance locally the standards associated with metadata.

Limitations in decision-making are also connected to the basic limitations of the strategic planning process in the ECU Libraries, as well as in higher education in general. The ECU Libraries, like most research libraries, follow a yearly strategic planning process where library-wide goals and objectives are developed with input from all personnel in the library. However, technological developments in the ECU libraries now happen so quickly that by the time the library's goals and objectives have been finalized, emerging technologies have already shifted the focus of the librarians. Katherine describes her own frustrations with how this process slows down the ability of librarians to make periodic changes throughout the year:

> Librarians aren't necessarily thinking in that cycle. They're thinking, we need to do this, and we need to do it now. They're not thinking in terms of 'well in two months I'll be able to propose goals and objectives for the next strategic planning cycle.'

And as universities continue to use these traditional strategic planning models, rapid changes in research libraries will be further limited by this annual cycle.

The Speed of Change is Rapid and Constant

Many librarians see continual change taking place at their libraries, ranging from the introduction of new technologies to the incorporation of new information sources. The literature in library science shows that many research libraries approach change as an incremental process. However, those librarians working at ECU frequently describe change as rapid and

constant, and they note that change no longer happens at a pace consistent with generations. Rather, technology in libraries has created an environment where something new comes out literally every day. And because of the rapid and turbulent speed of change, librarians at ECU are affected by this speed in their abilities to respond to change. Lisa, who works daily to help her colleagues move further toward a digital environment, highlights this feeling of being constantly pulled in different directions as a result of so much change:

> This change is beyond a proliferation, it's an explosion. I can't finish doing one thing before I've got five more that need to be done yesterday. Looking at my calendar this week and last week, if I have two hours together without a meeting, somebody's waiting to fill that time … It's like being on a treadmill.

The ECU Libraries are making significant progress in their transformation to an organization that relies predominantly on providing information and services in a virtual environment. However, several librarians comment that the speed of change happens so quickly that there seems to be little time to enjoy the successes that the ECU Libraries experience due to an immediate shift in focus toward the next project. As an example, Laura describes the turbulence of change in her own professional life:

> Change is happening so fast, and flying at us at such a pace, that you constantly feel like you don't have time to get your foot down before you're moving on to the next thing … And while we don't have the kind of financial support that the commercial sector would have, we still have to provide things in ways that are comfortable and convenient for the population in other areas of their lives.

Laura, who also suggested that librarians plan for the obsolescence of past practices, is an avid supporter of all the changes the ECU Libraries have made in the past few years. But she asks somewhat rhetorically if there is a way to control the speed of change that hits everyone's desk on a daily basis. Although she knows this probably cannot be accomplished, she recommends to the profession that, "there does have to be the voice that says, I embrace change, but there has got to be a way to do this that is not going to kill everybody."

Another phenomenon that emerged related to this theme pertains to the abandonment of old practices. The ability to increase the speed of change at the ECU Libraries is often slowed down, again, by trying to maintain both a physical and a virtual library. New digital resources and services compute to new work that has been added on top of the librarians' existing work, while new staff to handle these services are not added to the library. At the same time, however, Patricia, who administers a unit that processes many of

the print and digital resources of the ECU Libraries, notes that librarians are not willing to give up this work even if it is no longer needed. Consequently, this dilemma is exacerbated, since some librarians are very much in favor of continuing to add more and more digital resources while *maintaining* their work in the print environment. Several other librarians comment, however, this is just not an option for the ECU Libraries. So while librarians have been given permission to abandon their old work, passive aggressiveness toward change sometimes emerges regarding the protection of obsolete work. And, moreover, the necessity of this change becomes critical, because the library will not be viewed on campus as being an innovator or a partner in educational and research processes.

Theme Three: The Search for Professional Meaning

The search for professional meaning emerged as a philosophical under-current associated with change at the ECU Libraries. This theme ranged in diversity and depth of responses by librarians which showed that, although the ECU Libraries operate with a shared vision and team environment, the concept of change was not necessarily a conformist ideal accepted by all of the librarians. Rather, levels of its acceptance were connected to each person's individual experiences and desire to make sense of the phenom-enon. This search for professional meaning leads librarians into a period of simultaneous uncertainty and discovery. Bridges (2004) describes this search as the "forest dweller" stage where an individual leaves the comfort of his or her previously stable settings and introspectively explores alternative perspectives of career meaning.

For some librarians at ECU, this journey does not include a change in professional philosophy. Rather, it implies the need for librarians to choose aspects of the philosophy that respond more readily to new environments while communicating their own professional relevance to the university community. For other librarians, this response to the external environment requires radical shifts in philosophical thinking to ensure the long-term survival of the profession. This search for professional meaning also brings the question of dehumanization in the profession to the surface, as some librarians fear that the implementation of new technologies without the presence of human interaction with students and faculty will create increased stress and uncertainty not only for librarians but for the academic community in general. Still other librarians suggest that the search for professional meaning includes active competition with the business community in future

product development. ECU librarians also suggest that internal professional crises precipitate the need to shift away from traditional librarian specializations altogether, requiring radical shifts in library science curriculum to provide the skill sets necessary to manage emerging virtual libraries. Moreover, the absence of these external opportunities for development requires research libraries in the future to promote professional transformation through the precipitation of organizational transformation.

Communicating Professional Relevance

In an online environment, the concept of communicating the relevance of the library becomes more and more difficult. Users access online resources to which the library subscribes, oftentimes without realizing the work that has gone on behind the scenes to provide a seamless gateway to these resources. As an example, Lisa, who previously questioned the continuation of outdated practices, notes the greater importance librarians attribute to the perception of the library by the academic institution. She describes this scenario as continually exacerbating the concept of communicating the library's importance:

> You have to continue to prove your relevance, but you have to do it in ways you didn't do in the past. Volume counts aren't important anymore. When researchers get grants and rely on the electronic resources of the library, and they don't identify those resources with the library or the people that work there, how do you keep them aware of that?

Furthermore, the physical library used to be viewed as a central intellectual center on campus, but university administrators now see this central role disappearing due to the increasing demand for electronic information. And, while the library continues to pay for these digital subscriptions, researchers do not always identify the library with the information resources available to the university community.

Changes in the ECU Libraries might also be attributed to dysfunctional communication patterns among the librarians. Some librarians find themselves disconnected from the university community and from other academic librarians. As an example, Elizabeth, who previously questioned how slow change sometimes takes place, challenges librarians to communicate their relevance by tearing down both the physical and metaphorical walls that separate librarians from the university community. Moreover, this framework for understanding can help expose the dilemmas of libraries as similar symptoms of universities at large. Elizabeth argues that libraries epitomize the ivory towers on campus:

> Libraries have always been a tower within a tower. And often literally, *literally,* a library is that building that looks like a tower in the middle of the campus.

In her view, the metaphorical significance of this image subsequently leads to a convent-like mentality among librarians. Because of their physical spaces, librarians allow themselves to be cloistered from the university community outside the walls of the library and from their own colleagues within the building.

The Question of Dehumanization in the Profession

Many of the problems the ECU Libraries face are equally representative of the same dilemmas encountered by other academic units on campus. As an example, many university employees take Information Technology (IT) departments for granted and do not realize the significant amount of work that goes into maintenance of the campus IT infrastructure. And this problem is exacerbated in IT units, since many of the people who work within them are never seen by the campus community. Elizabeth comments that librarians have in the same vein been unable to find ways to legitimize and advocate for themselves professionally. In her view, the human side of libraries continues to have importance even in a digital age:

> You could erase the people, and we could hide ourselves underground, right? There would still have to be people hidden someplace like moles or gophers actually doing things to make that possible. We'll still be around. But it would be nice not to have to be buried in a hole. It would be nice to market ourselves.

The search for professional meaning in the age of commercial search engines becomes problematic when trying to project an image of human interaction into the future of librarianship. Some of the attributes of the profession happen philosophically behind the scenes but are not realized by many who use the ECU Libraries. As an example, Ann states that she feels the human focus of the profession has been taken for granted. Research librarians have a societal obligation to preserve history for the future while concurrently incorporating new technologies to make this happen. "It is sort of a dichotomy we've been faced with for 20 years or more at least, and it's not an easy one." However, Ann, like Elizabeth, fears that a research future that does not involve human interaction seems dark and desolate.

The Need to Respond to the External Environment

The search for professional meaning is a challenge that also shifts thinking in more rapid ways to respond to the real world experiences of library users. Librarians at ECU argue that librarians should learn to provide services and resources that are more in line with what people experience in their lives. Although Laura describes herself as an older, long-term career librarian,

many of the challenges in exposing the deeper issues of professional meaning are related to generational divides among older and younger librarians. The ECU Libraries are moving into the digital environment at a fast pace, but her experiences with librarians in other libraries have shown her that the profession is reaching a critical juncture. Laura, who has worked in different libraries for many years, argues that change in most libraries is happening at a slow rate that is unsustainable if librarians continue to force rigid structures of control and guardianship on the university community:

> Mostly in other libraries, the change doesn't come as fast as it does here, and it's not well received. There's a lot of older librarians in more hierarchical places who don't get it. They don't get it that, if they don't change, their whole institution may well disappear.

This argument does not imply that research libraries can do without older professionals. On the contrary, these librarians could lend a great deal of knowledge to the further development of the profession by beginning new individual searches for professional meaning. This dilemma becomes frustrating for many librarians when apathy toward a shift in professional thinking threatens job security. However, as Laura comments:

> My sons, who are in their 20s and 30s, tell me, 'Mom, you have got to get a new profession. Libraries are going away. Nobody in their right mind goes to a library anymore.' That's an epidemic way of thinking in the population as a whole and not necessarily inappropriate I think … It's a huge issue, and it really needs to be put out there especially for the benefit of the people who don't think their jobs are in danger or that libraries will go away.

Librarians at ECU also note that responding to the external environment must begin by reflecting on practice, and the practice of librarianship relies on understanding the educational and personal experiences of the library user. As Richard notes this includes recognizing what it is like to be a university student today and that many students are just as busy between work, school, and family lives as are librarians. What an incredible advantage it is for these students to be able to access the library's resources late at night after the family has gone to bed.

The divide between library user expectations and traditional frames of reference for the library profession can be particularly frustrating in an age of enterprise level search engines. Many of the students entering ECU now have lived through much of their educational careers with online search engines. As a result, they are accustomed to this type of searching and do not feel that library databases meet their expectations as far as user interfaces go. As one example, Christina notes that some of her colleagues take an adversarial position against the use of online search engines, and she states that any

librarian's quest for professional meaning should specifically address the failure of library resources to meet the Google expectation. Students now have choices and do not need to rely on librarians to find information. If librarians want to be able to compete with these types of search engines in the future, they must compete now, and that can only come with a new professional philosophy that tries to surpass the performance of Yahoo or Google. Students and faculty continue to view librarians as "kindly" and "intellectual," but these qualities will not suffice when librarians are no longer the people students and faculty turn to when they need information.

David, who has been a librarian for many years and administers technology in the ECU Libraries, argues that librarians have lost touch with the foundations of librarianship and need a recursive view of the founding philosophies:

> It certainly doesn't have to do with books, and it has nothing to do with libraries – it has more to do with access to information. It's really what it was all about in the first place, but I think we've always gotten hung up by the book on the shelf itself.

This is the unfortunate circumstance within which librarians have placed themselves. Some would argue that librarians have focused on the book and have therefore shifted their thinking toward things rather than people. In effect, librarians have created for themselves the very crisis from which they are trying to escape. If librarians can begin marketing their own value, they have a chance to find a place for themselves in a future where physical items are less important and human beings are more valued in a profession that continues to compete with the private sector.

Identified Needs for Change in the Philosophy of Librarianship

Changes in professional and organizational structures are happening so fast that there have been significant shifts in how research libraries of the future are even discussed. Teresa notes, for example, that there has been a subtle conversation among ARL directors that in the future, there might only be a handful of research libraries, and the remaining libraries will end up merging in virtual environments with, or subsequently absorbing, other academic libraries. If the former occurs – all of the prestige that formally came with the title of being a research librarian will start to disappear – leaving many wondering what this future will hold. Research universities in general might subsequently follow this trend. As Teresa states, "I think the profession will probably continue to have an identity crisis [laughing]." Moreover, Teresa questions, like many of her colleagues, if there will even be research librarians as we know them now in the future. If there are, the stereotype of librarians

liking books will completely disappear, and the concept of managing electronic resources will be less understandable to those outside the profession.

The uncertainty that the profession will evolve quickly enough to meet the challenges facing it increases occupational angst. At ECU, the librarians have done a very good job in reaching out to the new generation of students coming into the university, but this shift in focus has not been easy. As librarians note, they need to have people in the library who understand this generation. And the ECU Libraries have accomplished this to a large degree by actually going physically and virtually to where the students are. Librarians go to the students to provide services, whether that means the dorms, the individual colleges and departments, or the student union building. Equally, in a virtual environment, the librarians use wikis, blogs, podcasting, and Facebook to reach out to students. Lisa, as an example, challenges research librarians to understand how important this is, arguing that librarians need to look deeply at the relevance of their organization to the current and future university. "You definitely need to get a strong idea of what your institution is thinking about you and what it's expecting from you." And that means librarians have to make difficult choices. They can no longer continue to perform tasks that the institution perceives as irrelevant or wait to react to changing needs.

Increasing retirements taking place in research libraries can also be viewed as a catalyst for a new process of discovery of professional meaning. The ECU Libraries, like many other research libraries, have had difficulties recruiting librarians with newly needed skill sets. As an example, Christina states that, librarians disagree with the librarian stereotype, but the stereotype still fits to a large extent. "I think the people who are attracted to becoming 'a librarian' in quotes are not necessarily the type of people we need." The ECU Libraries seek out librarians who are willing to create and promote an environment where students can get access to library resources from commercial search engines without ever coming to a physical library. The problem in her view is that research librarians often want to work primarily with graduate students when the vast majority of most campuses at ARL institutions are composed of undergraduate students who use the library far more frequently than their graduate level colleagues. As Christina argues, "I don't think we like a lot of our users. I think we don't connect with them, and it's a problem."

Organizational Transformation Accompanied by Professional Transformation
For many research librarians, organizational changes serve as a catalyst for accompanying professional changes. These shifts in thinking require

librarians to generate their own professional evolution by relying on the
continual acquisition of new skill sets. Librarians at ECU highlight changes
in their own professional philosophies by focusing on the organizational
redesigns that have occurred at the ECU Libraries over the past 15 years. It
becomes critical for research libraries to evolve continuously, otherwise
members of the university community will find different ways to get the
information they need through methods that reflect practice in contempor-
ary society. As an example, Philip sees how the organizational structure of
the ECU Libraries has gone through significant changes in philosophy
by encouraging openness to new ideas. And this means individuals must
take on leadership roles that promote this continual evolution. However,
librarians can sometimes be reluctant to initiate change without direction
and may express resistance to giving up obsolete to take on new challenges.
Although the ECU Libraries have been particularly successful in recruiting
librarians with these skill sets, many librarians were hired to perform work
in a traditional print environment. And, equally, many of these people were
hired to do very specific tasks. Consequently, Philip states:

> I see the disconnects between the skills that we have at hand, and the skills that we
> need … And I think that's our single biggest challenge … There will always be a call for
> the digital object itself, but I truly believe we're looking at a really different future at
> some point.

Another concept that emerged during the course of this study suggests
that a change in professional philosophy should really be centered on the
concept of coping with change. These librarians note that everyone responds
to change differently, and, perhaps, there is a tendency for people in general
to react negatively to change during the beginning of the process. The ECU
Libraries have been active in facilitating an educational process that helps
train people to develop new skill sets and to question current practices. This
change process at the ECU Libraries typically has to be explored at the
individual level which generates its own set of problems. When individuals
ask themselves whether their own work needs to continue to be performed,
they feel threatened. Ann, who works in an educational capacity where she
helps librarians repurpose their skill sets, jokes that "it's like the first rule of
holes: the first thing you have to do is quit digging." When librarians refocus
their views toward the opportunities that the changes bring, however, they
recognize that holding on to the past actually creates more stress for
themselves than letting go and embracing new ideas.

Having worked at different ARL institutions, Ann recognizes that other
research libraries share some of the same professional challenges that the

ECU Libraries faces. And these challenges often come in the form of a paradox between professional thinking about the printed and virtual environments. Research libraries have an obligation to preserve the past to make this information available for future examination. At the same time, research libraries are obligated to incorporate digital resources that streamline the research process for faculty and students. But regardless of the medium of exchange, the need for human experience and interaction will continue to be critical for the success of the research library in the future.

Theme Four: Coping with the Experiences of Professional Change

Significant turbulence in a person's life can greatly influence how she/he responds to change. And certainly there are significant changes taking place at many research libraries across the country. However, there is little in the literature that addresses how librarians cope with and experience change in academic libraries. During the course of interviews at the ECU Libraries, librarians described several different experiences and coping mechanisms they use when responding to change. The concept of increased stress and tension as a result of rapid change and increased workloads emerged frequently, and the phenomenon of stress as a shared experience also was identified by the librarians in this study. Subsequently, coping strategies were identified by the participants which included communicating change, learning new skills, and adapting workflows. Equally, the necessity of coping at the individual level and through dialogue with other individuals becomes important to establish what Schön (1991) would describe as new theories in use. It became clear during the course of these interviews that dealing with change focuses more on the individual's own experiences, and his or her coping mechanisms manifest themselves in ways relevant to these experiences.

Coping by Communicating Change

It has been suggested by several researchers in the social and behavioral sciences that leaders should communicate the issues that surround needed changes in organizations as a strategy that helps individuals deal with organizational shifts (Birnbaum, 2000; Burns, 2003; Shaw, 1999; Yukl, 2002). At the ECU libraries, several librarians extend this perspective of communicating changes at all levels as an effective coping strategy. By letting colleagues know that changes are coming before they happen gives the librarians an opportunity to confront and make sense out of those changes. As an example, Teresa, who has participated in both library organizational