The Leadership Role of School Librarians in the Adoption of Digital Textbooks: Evaluating School Librarians' Stages of Concern in Florida and South Korea

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THE LEADERSHIP ROLE OF SCHOOL LIBRARIANS
IN THE ADOPTION OF DIGITAL TEXTBOOKS:
EVALUATING SCHOOL LIBRARIANS' STAGES OF CONCERN
IN FLORIDA AND SOUTH KOREA

By

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ABSTRACT

In our fast-paced, high-tech society, school librarians’ leadership role in technology integration has been receiving particular attention. Because school libraries are usually the first place to introduce new educational technologies, school librarians are expected to have a positive attitude and perspective regarding the effectiveness and merits of new technologies. Meanwhile, simultaneous implementation of digital textbooks is planned in K-12 schools in the U.S. state of Florida and the country of South Korea, and school librarians are supposed to play a pivotal role in this adoption. However, there have been very few studies conducted to identify any patterns or consistencies in librarians’ perceptions of innovation.

The purpose of this study is to identify and describe the concerns of Floridian and South Korean librarians during the initial phases of the implementation of digital textbooks. For each setting, the study not only determines the stages of concern as per school librarians’ practices and experiences, but also classifies those stages of concern by demographic backgrounds.

This study used the Concerns-Based Adoption Model (CBAM) as a theoretical framework. The comparative research design applying a survey method was used, incorporating the Stages of Concern Questionnaire (SoCQ) with other demographic questions. The SoCQ percentile scores were used to identify school librarians’ Stages of Concern (SoC) in Florida and South Korea. T-tests explored the similarities and differences of SoC in two locations.

The study revealed that school librarians in both places expressed the highest response in Stage 0, Unconcerned, implying they were more concerned about a multitude of other obligations, activities, or innovations. The CBAM theory anticipates that there will be potential resistance from school librarians towards digital textbook implementation in two locations, as the SoC from Florida school librarians presented a Negative One-Two Split user pattern and those
from South Korea presented a typical non-user pattern. Also, this study found that, according to their characteristics, school librarians showed the biggest gaps of concerns in the Impact stages (Stages 4, 5, and 6) while having relatively high concerns in the Self stages (Stages 0, 1, and 2). In Florida’s case, all profiles presented a relationship between SoC and participants’ characteristics, with the biggest gaps occurring in Stage 5, Collaboration. South Korean school librarians’ SoC profiles found the largest gaps in the Impact stages. Research Question 3 revealed that South Korean school librarians expressed more concern over the three stages: 0, Unconcerned; 1, Informational; and 2, Personal.

Based on the CBAM theory, the findings underscore a need for various interventions. Since school librarians’ were found to be apathetic even though digital textbook integration will be put into effect soon, an intervention to inform them of the characteristics and strong points of digital textbooks, as well as restrictions for using them, is urgent (Stage 0). Moreover, the study findings argue that it is urgent to introduce various interventions for specific groups of participants. For example, South Korean school librarians, who had the second-highest concern in Stage 1, Informational, need to receive general information including benefits and costs of digital textbooks. Florida school librarians, who had the second-highest concern in Stage 2, Personal, need guidance to prioritize digital textbooks, and they also need continuous encouragement.

The results from the study stress the importance of professional development for school librarians. Data from the study provides administrators with information regarding interventions that were targeted and customized according to school librarians’ characteristics. Moreover, for policy makers, the theory recommends gradual implementation of digital textbooks in Florida
and pilot test opportunities in South Korea. Lastly, the study urges library and information science education to have short- and long-term strategies for embracing digital textbooks.
CHAPTER 1
INTRODUCTION

As the knowledge economy has grown and evolved, the idea of “leadership for all” has become an accepted notion within the sphere of twenty-first century libraries (Kampylis et al., 2013). This new paradigm of leadership requires librarians to gather and consider the opinions of all knowledge seekers in terms of volatility, uncertainty, complexity and ambiguity (VUCA) when making decisions concerning their libraries (Davis & Macauley, 2011).

Leadership principles for school libraries are no exception to this development. Beginning with Mohajerin & Smith’s study (1981), which sought to identify school librarians’ perceptions regarding effective school leaders in the early 1980s, even more researchers have inquired about the leadership roles of school librarians (Fitzgibbons, 1980; Mohajerin & Smith, 1981; Smith, 2013). Especially in our fast-paced technological society, the leadership of technology integration has been receiving particular attention. School librarians are supposed to help students “develop information skills that will enable them to use technology as an important tool for learning, both now and in the future” (American Association of School Librarians, 2009). Library media programs should make available “the expansion and enhancement of new formats and resources” (National Board for Professional Teaching Standards, 2012).

The increasing number of studies and guidelines pertaining to school librarians, however, hints at the emerging role of leadership in school libraries. First of all, the current guidelines of the American Association for School Librarians (AASL), as identified in *Empowering Learners: Guidelines for School Library Media Programs*, include a section addressing the appropriate leadership roles of school librarians with the goal of attaining new standards for the twenty-first century learner. The guidelines state (AASL, 2009):
The school library media program is built by professionals who model leadership and best practices for the community to ensure that learners are equipped with the skills and knowledge they need to succeed in the technological society of the 21st century. (p. 45)

Leadership is integral to developing a successful 21st-century school library program. As information literacy and technology skills become central to learning, the school librarian must lead the way in building 21st-century skills throughout the school environment. Doing so involves a willingness to serve as a teacher and a learner who listens to and acts upon good ideas from peers, teachers, and students. Leadership also requires increased professional commitment and thorough knowledge of the challenges and opportunities facing the profession. By becoming an active member of the local and global learning community, the school librarian can build relationships with organizations and stakeholders to develop an effective school library program and advocate for student learning. (p. 17)

This declaration is critical, because not only do these standards introduce new leadership roles, but they also reorient school library media professionals to initiate advocacy programs for teaching and learning. In the guidelines, the leadership roles that will support school librarians in creating new models of teaching, learning, and organization for twenty-first century learners are reconfirmed.

Along with the statement of the AASL, the National Board for Professional Teaching Standards also makes an effort to create definitive and comprehensive standards defining the responsibilities of accomplished librarians. The standards for school library media clarify the importance of the roles of school librarians in technology integration and leadership. Although the concepts of leadership and integration of technologies are incorporated in all of the standards,
the fourth and sixth standards particularize leadership and the integration of technologies. In terms of leadership, the standards argue that accomplished specialists encourage collaboration, build relationships with communities, and strengthen library media programs. For instructional leadership, library media specialists apply current technologies to invigorate library media programs. In addition, in terms of providing professional leadership, school librarians need to focus on effective professional development. The standards also specify integration of technologies, stressing its importance not only in teaching and learning, but also in managing, maintaining, and administering programs. The standards address “the expansion and enhancement of new formats and resources available to the library media program” (p. 17). Moreover, the standards demonstrate the school librarians’ vigorous roles, such as differentiating instruction, providing assistive technologies, analyzing programs and activities, generating reports for the budgeting process, or offering solutions for problems.

Similarly, various studies have focused on defining leadership roles for school librarians (Branch-Mueller & DeGroot, 2011; Dotson & Jones, 2011; Gewertz, 2012; Johnston, 2011; Lankford, 2006; Lowe, 2000; Martin, 2011; Oliver, 2003; Turner, 2011). A great number of studies also indicate that when school librarians take on these leadership roles, a positive effect on both teaching and learning occurs school-wide. It appears that the more leadership school librarians exhibit, the better the overall academic achievement levels of the students. Despite the growing importance of technology integration leadership and the emergence of professional guidelines and organizations, most efforts have been on defining school librarians’ roles.

While the importance of school librarians’ technology integration leadership roles has taken on added significance, school librarians have encountered the advent of new educational technologies more rapidly than can be addressed. One example is that, over the last several years,
the importance of digital textbooks in schools has grown. In the U.S., seven states have launched Open Educational Resources (OER) initiatives, and 12 states have announced textbook innovation policies, including plans for funding (Fletcher, Schaffhauser, & Levin, 2012). In addition, some European countries, as well as Hong Kong, Japan, Singapore and South Korea, have launched projects related to the introduction of digital textbooks (Kampylis, 2013).

In particular, Florida plans to transition to an all-digital environment, including the exclusive use of digital textbooks, by 2015 (Mardis & Everhart, 2011). South Korea is another place where digital textbooks are being embraced. Among its plans for school reform, the Education Ministry of South Korea has enacted a set of digital textbook initiatives (J. H.-Y. Kim & Jung, 2010). According to this mandate for new technology, school libraries will experience the transition from print textbooks to digital textbooks alongside K-12 classrooms. Indeed, digital textbooks provide a great opportunity for school librarians to demonstrate their leadership skills, specifically in the area of technology integration (Dotson & Jones, 2011; Mardis & Everhart, 2011; Mardis, Everhart, Smith, Newsum, & Baker, 2010).

1.1 Problem Statement

Various standards and previous studies compel school librarians to play pivotal roles in integrating educational technologies. In fact, school librarians are already involved in advocating for technology in schools, disseminating information about those technologies, and educating the community about uses for new technologies (Everhart, Mardis, & Johnston, 2012). However, few school librarians are found to have achieved full or substantial leadership, advocacy, and community partnerships.

This mandate for school librarians to help integrate digital textbooks is common to both Florida and South Korea. Regardless of the opinions of teachers and staff members, the new
educational innovation of digital textbooks will be introduced into schools in Florida and South Korea by 2015 (Kang & Everhart, 2014c; Mardis & Everhart, 2011). More importantly, the changes that digital textbooks will bring have already been reported (Kang & Everhart, 2014c). One function of digital textbooks is that users can create, share, and use the content. Digital textbooks provide support tools for educators to make and collect digital content coinciding with their use, to customize the textbooks for their curriculum, and to tailor chapters for their state’s standards (J. H.-Y. Kim & Jung, 2010; Mardis et. al, 2010). Educators can also share and exchange their content virtually with students and other educators. In fact, schools that have adopted digital textbooks are now operating virtual libraries to collect, share and use content (Mardis et. al, 2010).

Previous studies involving educational innovations show that the opinions held by librarians vary in certain circumstances (Aharony, 2009; Bianco, 2008; Huston, 2009; Stephens, 2008). Although those studies agree that personal traits influence those opinions, the studies could not identify any patterns or consistencies among the librarians’ perceptions about innovation. Remarkably, while numerous studies have contributed to the research on digital textbooks, none have carried out as an initial research focus an empirical analysis that identifies human attitudes towards digital textbooks with the exception of a pilot study by Kang and Everhart (2014b).

Therefore, in order for school librarians to serve as leaders in adopting the new educational facet of digital textbooks, their perceptions and concerns need to be studied in order for them to move forward.
1.2 Purpose Statements and Research Questions

The purpose of this study is to identify and describe the concerns of Floridian and South Korean librarians during the initial phases of the implementation of digital textbooks. For each setting, the study does not only determine the stages of concern as per school librarians’ practices and experiences, but also classify those stages of concern by demographic backgrounds. By doing so, the researcher can suggest customized interventions for each group of school librarians for their leadership development. In addition, a cultural comparison of the two settings offers potential implications for other places where digital textbooks will be integrated. Further, the researcher provides practical interventions based on the Concerns Based Adoption Model (CBAM) in order to help school librarians enhance their leadership in embracing digital textbooks.

- **Overarching question**: What are school librarians’ concerns during the initial implementation of a digital textbook initiative in K-12 settings in Florida and South Korea?

- **Research Question 1**: Based on the Stages of Concern (SoC), what are the school librarians’ stages of concern regarding the mandated implementation of digital textbooks in Florida?

  1) Based on the Stages of Concern Questionnaire (SoCQ), what are the school librarians’ highest stage of concern surrounding implementation of digital textbooks?
  2) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ experience in years?
  3) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ technology adoption style?
4) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ personal experiences with e-books?

5) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians?

• Research Question 2: Based on the SoC, what are the school librarians’ stages of concern around the implementation of digital textbooks in South Korea?

1) Based on the SoCQ, what are the school librarians’ highest stages of concern surrounding the implementation of digital textbooks?

2) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ experience in years?

3) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ technology adoption style?

4) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ personal experiences with e-books?

5) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians?

• Research Question 3: Are there significant statistical differences in the stages of concern identified for school librarians in Florida and South Korea?

1) What are the differences between the highest and second highest stages of concern for school librarians in Florida and South Korea?

2) What main factors influence the differences in these two marginal stages?
1.3 Significance of the Research

The projected study identifies both Floridian and South Korean school librarians’ stages of concern about implementing digital textbooks. In addition, the study examines relationships between teacher characteristics and their concerns. Lastly, by comparing the two settings’ stages of concern, the study identifies similarities and differences between librarians in Florida and those in South Korea and identify the factors that influence preparation for successful implementation.

The results of the study helps school librarians gain a deeper understanding of both digital textbooks and how their colleagues perceive them. Moreover, the process of conducting the study including promotion surveys and recruiting participants may establish more dynamic interest in a new innovation and encourage librarians to consider their roles.

Besides school librarians, the knowledge from the study assists school administrators, who are in charge of school reforms like digital textbooks, in facilitating the adoption of digital textbooks via their school librarians. The findings from the study also provides school administrators with timely information about personalized professional development for both school librarians and teachers. By understanding the stages of concern, school administrators can provide appropriate human resources. Furthermore, the comparison of two settings allows school administrators to understand and benchmark successful cases in another location. South Korean administrators can be able to understand the backgrounds, issues and solutions put forth in Florida, and vice versa, helping both settings identify their own strengths and weaknesses.

The study helps educational policy makers identify issues and circumstances that school librarians encounter in mandated initiatives involving digital technology. Moreover, the results
of the study allows policy makers to recognize areas that require further attention and resources, and to establish school librarians’ leadership roles.

For library professionals, this study is significant because it is an opportunity to share other librarians’ stages of concern regarding an innovation. Above all, the methodology of this study informs researchers about new theories and research tools by incorporating the CBAM theory and the Stages of Concern Questionnaire into the library field. Library educators are able to use the results of the study to determine how school librarians serve as leaders for incorporating innovations.

To other educators, this study plays a leading role in studying school librarians’ cognitive reactions about innovations. While the previous research focused more how school librarians apply and implement innovations, this study emphasizes how school librarians think, perceive and prepare an innovation for students, teachers, administrators and community members. The study encourages further research into a wide variety of issues related to school librarians.

1.4 Theoretical Framework

In order to study school librarians’ concerns about digital textbooks in Florida and South Korea, the researcher utilized the CBAM because it is widely used as both theory and methodology to identify an individual’s concern while implementing innovations and new technologies. Also, the CBAM provides leaders with a unique way to facilitate innovation integration (Hord, Rutherford, Huling-Austin, & Hall, 2006; Hord & Thurber, 1982). In addition, since the CBAM deals with top-down changes, the assumptions of the CBAM are in accord with the research on digital textbook initiatives, which are also top-down projects.

Based on the importance of individuals and their adoption patterns, the CBAM was devised to provide a theoretical framework and methodology to identify individual educators’
levels of concern and usage when implementing new technologies and innovations. During a probationary period of twenty years, starting in the late 1980s, the CBAM was used to evaluate educational innovations (Hollingshead, 2009; Lueddeke, 1997; Shoulders & Myers, 2011).

In order to answer the research questions, the study integrated the CBAM as a model, and the Stages of Concern Questionnaire (SoCQ) in the CBAM as an instrument. The CBAM “consists of three diagnostic dimensions that provide evidence of the current extent and quality of implementation, which leaders can use to drive decisions and actions” (SEDL, 2015, para. 7). The CBAM includes the concepts of stages of concern (SoC), levels of use (LoU), innovation configurations (IC), change facilitator styles, and interventions (Anderson, 1997; Dirksen & Tharp, 1997).

Among the three methods, this study focuses on the first tool, SoC, in order to make a diagnosis of school librarians’ stages of concern as a preliminary study. There are three techniques to assess the stages of concern about an innovation: one-legged conferencing, open-ended concern statements, and the SoCQ. These methods are explained further in Section 3.4.4.1. The study mainly applies the SoCQ as a tool to assess concerns, but the researcher also added one open-ended question, such as “When you think about digital textbooks, what are you concerned about?” (Hall & Hord, 1987, p. 66).

1.5 Research Design

This research leverages the advantages of survey research, providing “a quantitative or numeric description of trends, attitudes, or opinions of a population” (Creswell, 2009, p.12). Surveys enable researchers to collect large amounts of data by applying various types of questions. Consequently, it is possible for the researcher to describe librarians’ understandings about the innovative phenomena of digital textbooks, making the results statistically meaningful.
When employing survey method in research geared toward librarians’ perceptions, the researcher can examine the responses of any sample of individuals. It is also possible for the researcher to collect data at a relatively low cost and test that data relatively quickly. In addition, if the sample size is statistically big enough, survey research can represent the attitudes and characteristics of a larger population (Schutt, 2009). Therefore, the researcher employed the Stages of Concern Questionnaire (SoCQ) to identify school librarians’ stages of concerns.

The population of this study was made up of school librarians who work in elementary and secondary school libraries in Florida and South Korea; in both settings, there is an impending mandate to utilize digital textbooks. The study employed an availability sample method, requiring the researcher to select subjects based on certain characteristics (Schutt, 2009). As school librarians act as educators, they fit without conflict into the CBAM’s framework as a research population. Other limitations related to research design can be eliminated by applying a comparison study. The study compared each stage within one profile, and also compared two profiles from two different settings. The researcher believes that comparing each stage within two profiles, unlike the first- and second-highest stage score interpretation, allows a closer look at each specific stage without ignoring any one stage.

1.6 Conclusion

This chapter has discussed an overview of the study designed to identify school librarians’ stages of concern in Florida and South Korea. In addition, the relationship between personal characteristics and stages of concern is studied. Comparative research applying a survey method examines societies or nations over time in comparison with each other (Schutt, 2009). Cross-national surveys, which are conducted across multiple places, are becoming more popular as the need for global data increases (Babbie, 2010). The study findings for each setting not only
determined the stages of concern in the context of school librarians’ practices and experiences, but also compared the stages of concern depending upon those librarians’ demographic and technological backgrounds. The study provided an opportunity for school librarians to share their concerns, and it will help to inform librarians about digital textbooks in both Florida and South Korea.

This chapter includes problem and purpose statements, research questions, a significance of the study and an overview of the CBAM theory and research design. Chapter Two presents a literature review related to school librarians’ leadership roles in technology integration, digital textbooks, and CBAM.
CHAPTER 2

LITERATURE REVIEW

Chapter 1 describes the current status of digital textbook initiatives and the importance of school librarians in the adoption and implementation of those initiatives. Research questions in the study center on the relationship between school librarians’ concerns and the innovative education technology of digital textbooks in Florida and South Korea in order to promote librarians’ leadership roles in technology integration.

This chapter reviews literature related to school librarians’ leadership roles, examines educational innovations regarding digital textbooks and details the conceptual framework of the study. First, changes in school librarians’ leadership roles in technology integration is described. Second, a note about the definition and characteristics of digital textbooks is followed by a description of digital textbook initiatives. Lastly, the chapter gives the particulars of the theoretical framework, CBAM and SoCQ.

2.1 School Librarians’ Leadership Roles in Technology Integration

Libraries have traditionally “housed the ‘universe of knowledge’ contained in books” (Callahan, 1991) and librarians have provided users with tools to access this knowledge. However, quickly evolving information technology has changed the ways in which information is stored, presented, retrieved, and managed. In light of this change, librarians must meet information needs by bridging the gap between new technological innovations and library users (Callahan, 1991). Thus, librarians must understand and adapt to these innovations (Dority, 2006; Martin, 2011). They must also unearth a body of knowledge within emerging information resources and create added value for the information.
2.1.1 Studies Defining School Librarians’ Leadership Roles in Technology Integration

Previous studies have focused on identifying a range of definitions and prototypes for school librarians’ leadership roles. Studies examine school librarians’ various roles and some studies confirm that the leadership qualities of school librarians are complex and multidimensional, rather than fragmentary (Everhart, 2011; Smith, 2013).

As a representative study, Everhart, Mardis, & Johnston (2012) conducted a national survey with 295 National Board Certified school librarians in order to demonstrate those librarians’ roles in integrating technology. Everhart et al. conclude that most school librarians have a strong commitment to technology leadership by offering invaluable expertise to their respective schools, including to faculty and students. Librarians were found to be involved in disseminating information about technology use in the school and about advances in technology to the community, as well as in advocating for the use of technology in schools.

Smith (2013) scrutinizes the perceptions of educators including school librarians, administrators and lead teachers about the role of the school librarians at the elementary level. Based on the literature review, the author analyzes three factors that lead to changes in the new definition of the role of school librarians: technological advancements, accountability movement and new demands for leadership. With the focus group discussion, Smith affirms that the expectation for school librarians to be leaders in collaboration, instruction, leadership, student learning, research, and advocacy is evident. The study finds that seven of the eleven items related to leadership are loaded on the first factor, the Contemporary role, and the nearly one-third of school librarians’ behaviors given in the Contemporary role are representative of leadership roles.
Powell (2013) determines that there are no differences in saliency ratings on items related to collaboration, leadership, and technology between Alternately Certified School Library Media Specialists (AC SLMS) and Traditionally Certified School Library Media Specialists (TC SLMS) by employing a survey, interviews, and analysis of reflective blogs. When Powell uses a 5-point criticality survey scale (1=unimportant to 5=crucial), the mean rates for the job task analysis theme leadership (AC=2.91, TC=2.98) and technology (AC=3.09, TC=3.15) are close to ‘moderately important’ (=3). In terms of leadership theme, school librarians spent more time for all 10 items, except two items related to facilitating an advisory committee and parent organizations. Among the 10 items, school librarians spent the most time in informing other faculty of new media center services, materials, and technology. In terms of the technology theme, seven items out of 10 indicated that school librarians spent more time on this. It was found that school librarians spent the most time in providing formal instruction in information skills to students in classroom or small group settings. Through the comparison of studies in 1996, 2006, and 2012, the author establishes that school librarians have increased engagement in technology.

In their attempts to define school librarians’ leadership roles and the factors impacting those roles, the studies are more focused on describing particular phenomena and enumerating factors (Johnston, 2011). However, these recent studies, in common, offer an important starting point for this study demonstrating the growing importance of school librarians’ leadership roles and the emergence of technology integration.

2.1.2 Studies Identifying the Factors Affecting Leadership Roles in Technology Integration

There have been attempts to identify the factors affecting the adoption of technology innovations by school librarians. Forrest (1993) conducted an ethnographic case study applying
observations, interviews, document analyses and member checks. The author reveals that the school librarians’ personal attitudes about information technologies—as well as their overall profession—influenced the creation of an effective school library program and technology environment. Also, the school librarians’ educational and professional activities are important in facilitating innovation diffusion. In terms of supporting diffusion, the teachers’ and administrators’ perceptions as co-workers and their supportive stance affected the roles of the school librarians. Interestingly, school librarians could influence other faculty members’ attitudes and behaviors toward technology innovation, and vice versa. Lastly, the author finds that innovation diffusion in school libraries differs depending on teachers’ attitudes, individualized training, and variable characteristics of the innovations.

Hughes-Hassell and Hanson-Baldauf (2008) report competencies and barriers related to information and communication technologies. The authors find that 420 school librarians in North Carolina had the highest level of competence with respect to e-mail, presentation tools, and digital cameras, while they were unfamiliar with (level 0) or possess the lowest level of competency with (level 1) such emergent technologies as social networking and file-sharing tools, as well as virtual modeling tools and computer simulation. The barriers to technology integration identified includes the lack of time, resources, and knowledge about how to use technology personally and instructionally, as well as the lack of administrative support.

Johnston (2011) also determines the factors that enable school librarians to demonstrate, and prevent them from demonstrating, their leadership in technology integration. The following factors contribute to school librarians’ abilities to integrate technology: a supportive principal (9.67%), opportunities for leadership roles and responsibilities (9.53%), the desire to make a difference in students and teachers (9.53%), professional development opportunities (8.29%) and
a sense of obligation (6.63%). Conversely, the following factors act as barriers: time (25.68%), exclusion from leadership roles and responsibilities (10.93%), lack of funding (9.02%), inadequate staffing (6.83%), a competitive instructional technologist (5.74%), a climate of competition with district technology departments (5.74%) and technology resources (5.74%).

Martin (2011) also points out the enabling factors for practicing leadership roles: supportive administrators, collaboration and planning opportunities, assuming leadership, professional development opportunities and activities, and supportive faculty (p.87). The limiting factors found in this study are lack of time, lack of clerical support and other assigned duties, lack of administrative support, lack of support and interest by teachers, and lack of adequate funding (p.88).

2.1.3 Gaps between Research and Practice

While some researchers have found that school librarians express concern about their leadership roles in technology integration, other researchers have found that, in practice, school librarians are not as involved with technologies as they are supposed to be. Hughes-Hassell and Hanson-Baldauf (2008) find that, despite school librarians’ low perceptions of emergent technologies, 34.84% of the responders felt “well prepared” and 57.52% of them reported feeling “somewhat prepared” to integrate technology into their instruction. Dotson and Jones (2011) identify that, although a wide variety of leadership activities were reported, school librarians remained notably traditional in their approach. The librarians studied seemed to contribute little to the planning of activities and events in the schools. It has also been observed that school librarians have become members of media and technology committees, yet less than 30% of participants actually worked for those committees. Martin (2011) also finds that school librarians ignore the survey statement about collaborating with the technology staff, finding that the
librarians ranked this collaboration as 7th in importance and 6th in practice among 15 statements related to instructional leadership. By comparing studies conducted in 1996, 2006, and 2012, Powell (2013a) concludes that school librarians are less aware of tasks that are not included in their job descriptions for collaboration and technology.

While there are more studies emphasizing the importance of school librarians’ emerging leadership roles in technology integration, in practice, school librarians are not aligned with studies yet. Moreover, the studies have not provided a procedural guide for improving school librarians’ leadership abilities or for providing the tools necessary to effectively evaluate their leadership. This lack may provoke controversy about how to increase or demonstrate the leadership, or what the best practices truly are. A study is required to demonstrate what the stages of school librarians’ leadership are, and to illustrate the interventions to help them develop their roles in technology integration.

2.2 School Librarians and a New Innovative Technology - Digital Textbooks

Since school libraries are usually the first place to introduce new educational technologies, it is vital for school librarians to understand the significance of each technology. In addition, school librarians are expected to have a positive attitude and perspective regarding the effectiveness and merits of new technologies. In particular, a recent information innovation, the e-book, already plays an important role in librarianship. While the transition from print books to digital books has not been as rapid as anticipated, the paradigm is most certainly shifting, creating opportunities for librarians to take on additional leadership roles (J. H.-Y. Kim & Jung, 2010; Mardis & Everhart, 2011). Within this changing environment, research offering cause analyses and strategies for school librarians to refine their leadership roles would be of great value.
2.2.1 Emerging Roles of School Librarians in Digital Textbook Implementation

The increasing number of studies and guidelines for school librarians emphasizes the emerging role of leadership in all areas of schools. Especially in our fast-paced technological society, school librarians’ leadership in terms of technology integration has received particular attention. School librarians are requested to help students “develop information skills that will enable them to use technology as an important tool for learning, both now and in the future” (American Association of School Librarians, 2009, p. 13). Library media programs should make available “the expansion and enhancement of new formats and resources” (National Board for Professional Teaching Standards, 2012, p. 17).

Although job descriptions of school librarians regarding digital textbooks have not yet been updated, the literature agrees that digital textbooks present another opportunity for school librarians to consolidate their positions as the vital leaders in teaching and learning (Mardis et al., 2010).

Digital textbooks represent another opportunity for school librarians to enhance their vital leadership in teaching and learning. Librarians, of course, are experts at identifying, collecting, and organizing the best content, free or for a fee…. In an age when many school librarians are not sure about the continued relevance of their promotion of reading and love of books, ebooks and digital textbooks may represent a fresh way to continue advocacy for the importance of reading as well as for the school librarian's crucial leadership role in technology integration (p. 14).

As digital textbooks are introduced, school librarians will continue their primary tasks while their job assignments evolve to incorporate a new set of tasks. The traditional responsibilities of selecting materials and finding resources corresponding to curriculum needs
and students’ reading interests and levels will continue (Fredrick, 2011). As Mardis and Everhart (2011) demonstrate, the roles school librarians play in transitioning to digital textbooks will be expanded to include testing e-reader functions, registering them, developing collections and conducting pilot studies. An extension of the current job for physical textbook circulation, school librarians’ duties surrounding digital textbooks will create new job responsibilities, including developing circulation strategies and action plans, creating new ways to collaborate with teachers and considering technology issues. In other words, school librarians use their expert knowledge and experience at “identifying, collecting, and organizing the best content” (Mardis et al., 2010, p. 14) to build and implement open-content learning resources. The additional point from Kang and Everhart (2014a) is that because most school librarians are responsible for print textbooks in schools, they are more likely to continue this job with digital textbooks.

2.2.2 Unique Characteristics of Digital Textbooks in Relation to School Librarians

Compared to traditional textbooks, digital textbooks have unique characteristics and for this reason, digital textbooks have various definitions. Mardis et al. (2010) emphasize various formats of digital textbooks that include “electronic textbooks (digital textbooks) specially created for a reader, read-on-demand computer-based textbooks, print-on-demand digital textbooks, and modular assemblages of audio, visual, interactive, and text resources” (p. 3). Chesser (2011) includes in the definition of digital textbooks replicas of traditional print textbooks, wiki version open textbooks and nontraditional content such as games, animations, online labs and online assessments. S. J. Kim, Park, Seo & Lee (2011) define a digital textbook as “a medium that converges analogue with digital in the teaching and learning field in schools, and possesses the advantages of both online and offline media” (p. 432). The authors highlight
the connectivity between analogue and digital and discern differences between two formats, as shown in Table 1.

Table 1. *Paper Textbook vs. Digital Textbook*

<table>
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<tr>
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<th>Paper textbook</th>
<th>Digital textbook</th>
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<tr>
<td><strong>Type of material</strong></td>
<td>Print-based learning materials consisting mainly of texts and images</td>
<td>Multimedia study materials including sound, video, animation, virtual reality, etc.</td>
</tr>
<tr>
<td><strong>Data collecting</strong></td>
<td>Considerable time and expense required to find materials out of textbooks</td>
<td>Hyperlinked with various educational materials</td>
</tr>
<tr>
<td><strong>Media for education</strong></td>
<td>Print media</td>
<td>ICT devices (tablet PC/desktop PC)</td>
</tr>
<tr>
<td><strong>Direction of information</strong></td>
<td>One-way learning mainly for knowledge transmission</td>
<td>Multi-directional study among teachers, students and computers</td>
</tr>
<tr>
<td><strong>Effects of lesson</strong></td>
<td>Difficult to teach according to the abilities of the individual students</td>
<td>Enables student-oriented class activities and self-regulatory study</td>
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(*Source: S. J. Kim, Park, Seo & Lee, 2011, p. 432*)

According to Table 1, since digital textbooks provide abundant information from the internet, and that information includes not only textbooks, references, workbooks and self-
teaching guides, but also rich multimedia content including games, animations, video-audio clips, internet-based virtual laboratories and virtual reality (J. H.-Y. Kim & Jung, 2010; Mardis et al., 2010), school librarians should develop more and various digital collections, and make sure that the library collection is up to date (American Association of School Librarians, 2009). In fact, previous research has found that school librarians are in charge of identifying and implementing digital content and purchasing or downloading books (Mardis & Everhart, 2011; Wolf, Jones, & Gilbert, 2014). Another feature of digital textbooks is working in a device. Since textbooks are non-exclusive, all students need devices. In order to build the learning environment (American Association of School Librarians, 2009), school librarians take care of creating a policy regarding devices such as a “Bring Your Own Device” (BYOD) or “Bring Your Own Technology” (BYOT) program, purchasing and registering devices and maintaining e-readers (Mardis & Everhart, 2011; Wolf et al., 2014).

Pedagogically, digital textbooks enable differentiation within instruction. Since digital textbooks can differ depending on each student’s level, teachers can offer personalized and customized teaching, and this differentiated strategy allows teachers to set student-centered immersive activities and assignments (J. H.-Y. Kim & Jung, 2010). Digital textbooks also enable educators to do more collaborative work and promote social interaction with other educators (McKiernan, 2011). Therefore, school librarians need to recognize the new way to promote students’ creativity, to collaborate with other educators and support them in use of digital textbooks (Mardis & Everhart, 2011).

2.2.3 Digital Textbook Initiatives: World-wide, Florida and South Korea

The US federal government is pouring much effort into digital textbook initiatives. In 2012, the federal government declared a plan to bring digital textbooks to every student by 2017.
Trying to initiate this plan and accelerate this transition, the Federal Communications Commission (FCC) and the United States Department of Education (USDOE) have developed the Digital Textbook Collaborative and released the “Digital Textbook Playbook,” a blueprint for steering educators towards digital learning implementation (Tomassini, 2012).

However, textbook adoption is primarily considered a statewide convention (Mardis et al., 2010); in fact, many states are embarking on adoption initiatives. According to Fletcher et al. (2012), seven states, including Alabama, Florida, Idaho, Nebraska, North Carolina, Texas and Virginia have launched digital initiatives, and five states, including California, Maine, New York, Utah and Washington, have launched Open Educational Resources (OER) initiatives. Moreover, 12 states, including Illinois and Ohio, have definitive textbook innovation policies that come with funding. As a pioneer, California started its three-phase initiative for free digital textbooks in 2009, and the California Learning Resources Network (CLRN) now coordinates expert educators and content specialists who conduct reviews (Hill, 2010). As described above, Florida is heeding this crucial initiative. In June 2011, Florida’s governor signed a bill mandating all Florida’s public schools use entirely digital textbooks and assessments by 2015. Within two years, the U.S. will invest about two billion dollars in digital textbooks (Kwang, 2011).

By no means is the U.S. the only nation rolling out digital textbook initiatives. According to the European Commission’s report, Hong Kong, Japan, Singapore and South Korea, as well as several European countries, have embarked on digital textbook projects (Kampylis et al., 2013). In particular, As a part of a school reform, the Education Ministry of South Korea announced a digital textbook initiative on March 8, 2007 (J. H.-Y. Kim & Jung, 2010). In order to solve private education problems and strengthen the competitiveness of schools, the plan to develop digital textbook systems include six phases occurring between 2007 and 2011. The
implementation is expected to create a learner-centered environment, extend an overseas market, and reduce the learning and digital gap in hopes of raising achievement among a neglected class of students. Since then, the Korean government has been developing digital textbooks that combine various ubiquitous technologies (B. G. Lee, Kim, Park, Kim, & Jeong, 2012). The South Korean Ministry of Education, Science and Technology (MEST) is conducting pilot studies (J. H.-Y. Kim & Jung, 2010). Hundreds of elementary and middle schools around the country during 2014 were using digital textbooks, and full enforcement is to be determined in the first half of 2015.

2.3 CBAM

The Concern-Based Adoption Model (CBAM) provides a theoretical framework because the theory can identify the developmental process that individual school librarian experience as they implement digital textbooks.

Ongoing efforts to educate people more efficiently have brought about various changes in education. Teachers, administrative staff, principals, and policy/law makers, as well as parents and even sometimes students themselves, have been leaders and agents in various educational reforms. Persistent changes in education professionals’ thoughts and actions were induced not only by changes in the educational environment such as the enactment of new regulations and guidelines, theoretical developments, educational paradigm shifts, and the advent of technologies, but also by various educational initiatives such as changes in site-based management and professional development, high-stakes testing, adoption of new curricula and materials, and evolution of teacher evaluative methods (Donald & Sharon, 1992; George, Hall, & Stiegelbauer, 2013). Much of the research on the adoption of innovation has emphasized individual educators’ adoption patterns, which are decisive factors in new technology
implementation. An individual can have an impact on an entire organization’s ability to adopt innovations, as well as the outcome of those adoptions (Jantz, 2012; Straub, 2009).

Although decisions about educational innovation integrations are frequently dependent on higher levels of authority rather than on each school or teacher, the actual implementation of innovation is applied on a personal level (Hall & Hord, 1987; Hord et al., 2006; Straub, 2009). Therefore, when one attempts to understand the adoption of innovation, it is necessary to ask certain questions: Why does an individual adopt a specific innovation rather than some other alternative? How does an individual feel about the innovation? What are the roles of social contexts in this decision? (Straub, 2009).

2.3.1 Rationale for Applying the CBAM

The researcher chose the CBAM not only “to diagnose individual staff concerns,” but also “to decide which interventions might be helpful in facilitating staff effectiveness” (Hord & Thurber, 1982, p. 20). As the CBAM offers leaders “a unique approach to the facilitation of instructional improvement and to the support of faculty involved in school improvement efforts” (p. 3), the researcher has taken advantage of this approach to determine the developmental process that school librarians experience as leaders as they integrate a new innovation, digital textbooks, and to recommend various events and methods to make them even more effective leaders.

It is worth noting that, in this context, the CBAM regards leadership as “a prescriptive activity which includes the use of reliable data for making informed decisions about actions to be taken. The model contains procedures for collecting such data” (p. 20). Therefore, the theory assumes that it is possible for educational leaders to take action with the information provided by the CBAM, thereby strengthening their leadership (p. 20). The researcher used this assumption in
applying the SoCQ as a diagnostic tool and the Intervention Taxonomy, which is a framework to describe “the actions and events that teachers’ use of an innovation” (Hall & Hord, 1987, p.15) as a tool “in choosing interventions to increase effective leadership” (Hord & Thurber, 1982, p. 5) in the discussion section.

The term “concern” does not mean simply someone’s psychological state or cognition. The concept of concern has a broader meaning, and the operational definition of concern in the CBAM is the composite representation of humans’ feelings and knowledge about a specific event or issue. Furthermore, it includes an individual’s human experience - including attitudes, concerns and beliefs (Buckner, 2013) referring to “questioning, analyzing, and re-analyzing, considering alternative actions and reactions, and anticipating consequences” (Hall & Hord, 2011, p. 72). It is clear that the CBAM is not only a simple tool to describe the process of individuals who experience an innovation, but also a comprehensive tool to determine “how to plan for and manage change more efficiently and effectively” (Hord et al., 2006, p. 74).

2.3.2 Core Concepts

The principal measure of CBAM is concern, and this term contains broad significance reflecting a complex environment. “Concern” is defined as:

The composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task is called concern. Depending on our personal make-up, knowledge, and experience, each person perceives and mentally contends with a given issue differently; thus there are different kinds of concerns. The issue may be interpreted as an outside threat to one’s well-being, or it may be seen as rewarding. There may be an overwhelming feeling of confusion and lack of information about what “it” is. There may be ruminations about the effects. The demand to consider the issue may be self-imposed
in the form of a goal or objective that we wish to reach, or the pressure that results in increased attention to the issue may be external. In response to the demand, our minds explore ways, means, potential barriers, possible actions, risks, and rewards in relation to the demand. All in all, the mental activity composed of questioning, analyzing, and anticipating consequences is concern (Hall, George, & Rutherford, 1977, p. 5).

Overall, a concern is a psychological action based on personal make-up, prior knowledge, and prior experience when facing new experiences or environments and evaluating the need for improvement or change (Hall & Hord, 1987). This definition encompasses all stages of concern, examined below. Concern carries with it no negative or positive connotations, and CBAM considers a concern to be a dynamic phenomenon. When an individual has more intense concern, this person is considered more likely to have “greatly increased mental activity, thought, worry, analysis, and anticipation” (Hall et al., 1977, p. 5). Regardless of an educator’s classification (classroom teacher, librarian, principal, or administrator), each educator has a different stages of concerns (SoC); therefore, each SoC has a different level of intensity.

However, it is true that the concept of concern is sometimes misunderstood by both researchers and participants. The study from Newhouse (2001) serves as an example. While determining teachers’ concerns about the implementation of portable computers in schools, Newhouse employed SoCQ. The author found that 53% of teachers’ concerns fell in Stage 0, Unconcerned. When the author analyzed this data, he mentioned that “some of these teachers may have interpreted the term ‘concern’ to mean ‘worried’ and, therefore, rather than lacking awareness or interest they may have been indicating confidence and lack of worry” (p. 10-11). These findings show that it is critical for researchers and participants to understand the real meaning of concern, and it is important to discuss the accurate definition of concern.
In terms of understanding what an innovation is innovation originates from concerns according to the CBAM. Rogers (1983), author of the famous book *Diffusion of Innovations*, extends the definition of innovation in his research to adoption of that innovation. Therefore, Hall et al. (1977, p. 5) define an innovation as “the general name given to the issue, object, problem, or challenge, the thing that is the focus of the concerns”. On the other hand, Rogers (1983, p. 11) defines an innovation as an “idea, practice or object that is perceived as new by an individual or other unit of adoption.” In other words, an innovation is novel and includes both new abstract ideas and concrete technologies. This study focuses in particular on the new innovation of digital textbooks to identify school librarians’ mental statuses with regard to this technology.

The study focuses specifically on a new piece of technology, a digital textbook, to identify school librarians’ mental statuses with regard to this technology. The research topic, however, is not limited to the digital textbook itself, but rather focuses on various matters related to digital textbooks, such as culture, policy, education system, role of educators, etc. Therefore, the concept of innovation should extend its scope, so that research to fully explore an innovation can fit the concept of innovation.

### 2.3.3 Assumptions / Perspective

The CBAM developed hyper-sophisticated assumptions (Hord et al., 2006, pp. 5-7).

i. Change is a process, not an event.

ii. Change is accomplished by individuals.

iii. Change is a highly personal experience.

iv. Change involves developmental growth.

v. Change is best understood in operational terms.
vi. The focus of facilitation should be on individuals, innovations, and the context.

Change is a process for and by participants, and anyone can participate. The authors emphasize the importance of an individual’s decision about whether or not to adopt or reject the innovation. The success or failure of an implementation is predicated upon participants’ thoughts about interventions “made at appropriate times, places, or in ways perceived by the clients as relevant” (Hall & Hord, 1987, p. 8). Also, this perspective stresses the significance of time. The CBAM hypothesis is that educational innovation adoption takes time, and that there are several phases to go through to implement new plans.

These assumptions have been verified by studying school changes, and they have become the basis of the current version of the CBAM. The latest assumptions put more emphasis on the importance of each individual’s role in an adoption, while continually stressing the significance of progress and stages of implementation. Hord et al. note that only changes in people’s behavior, not changes in materials or equipment, bring actual change. The new element here is that the CBAM focuses on front-line educators and the contexts in which they practice. The CBAM considers that only individual users can enable change through their appropriate actions.

2.3.4 Change Facilitator and Three Diagnostic Dimensions

One of the distinctive concepts of CBAM is the Change Facilitator (CF). In CBAM, CF is the smallest unit to embrace an innovation. Change facilitators can be “principals, teachers, district personnel, intermediate and higher education personnel, and others who, for brief or extended periods, assist various individuals and groups in developing the competence and confidence needed to use a particular innovation” (Hall & Hord, 1987, p. 11). The CF acts an assistant for others to become skilled in using a new innovation. The term CF was developed as a counter to the traditional term, change agent, which was suggestive of a top-down, one-way and
coercive approach. In order for change facilitators to work effectively, they need to identify teachers’ requirements. Also, facilitators can ensure that resource systems are used properly.

To maximize the change in facilitators’ roles, administrators should understand the individuals or groups that embrace the innovation. Therefore, for this diagnosis, CBAM designs three diagnostic dimensions: 1) Stages of Concern (SoC), which is the main idea employed in this study; 2) Level of Use (LoU); and 3) Innovation Configurations (IC) (Anderson, 1997; Dorksen & Tharp, 1997). The SoC measures the intensity of individuals’ feelings and perceptions regarding an innovation. LoU demonstrates how well the staff members are using an innovation. IC maps provide a big picture of the operational components.

In this research, the detail of the stages of concern (SoC) is provided. The SoC encompasses seven categories defined in Table 2. In each stage, an individual experiences a particular concern (George et al., 2013). Although these seven stages have distinctive characteristics, they are not exclusive of one another. The model assumes that when individuals encounter a new innovation, they are interested in all stages, but score more highly in a particular stage. As time goes by and an individual’s concern in a certain stage subsides, then other concerns will emerge.

In Stage 0, Unconcerned (formerly called awareness), individuals are not concerned about the innovation or involvement (George et al., 2013). Stage 1, Informational, indicates individuals are generally aware of the innovation and begin to cultivate an interest. Those individuals, however, focus on more impersonal, substantive aspects of the innovation than on personal concerns. In Stage 2, Personal, individuals begin to have concerns related to personal matters. They are inquisitive about expected demands, their roles in meeting these demands, the renewal structure of their organization, and any potential conflicts with other personnel’s
Table 2. *Stages of Concern and Expressions*

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<th>Dimension</th>
<th>Stage</th>
<th>Concern &amp; Expressions of Concern</th>
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<tr>
<td>Self</td>
<td>0</td>
<td>“Little concern or involvement with the initiation”</td>
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<td></td>
<td></td>
<td>- “I do not have any concerns about digital textbooks.”</td>
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<tr>
<td></td>
<td>1</td>
<td>“Gains more information about the innovation”</td>
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<tr>
<td></td>
<td></td>
<td>- “I would like to know about digital textbooks.” Or “I need more information regarding it.”</td>
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<td></td>
<td>2</td>
<td>“Uncertainty about the personal requirement toward the new program”</td>
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<tr>
<td></td>
<td></td>
<td>- “How would the use of digital textbooks impact me?”</td>
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<tr>
<td>Task</td>
<td>3</td>
<td>“Managing skills such as scheduling and integrating”</td>
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<tr>
<td></td>
<td></td>
<td>- “I have spent the majority of time preparing the material.”</td>
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<tr>
<td></td>
<td></td>
<td>“How would I spend my time if we use digital textbooks?”</td>
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<tr>
<td>Impact</td>
<td>4</td>
<td>“Tests innovation on students”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- “How would my use of digital textbooks affect my students?”</td>
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<tr>
<td></td>
<td></td>
<td>“I would like to reflect on students’ feedback to the digital text.”</td>
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<tr>
<td></td>
<td>5</td>
<td>“Shares interests with others in the new program”</td>
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<tr>
<td></td>
<td></td>
<td>- “I am concerned about relating the use of digital textbooks to teachers.”</td>
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<tr>
<td></td>
<td>6</td>
<td>“Focuses on pursuing more benefits of the innovation or exploring an alternative program”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- “I have some ideas to improve digital textbook use.”</td>
</tr>
</tbody>
</table>

(Note. Definitions are adapted from George, Hall & Stiegelbauer (2013, p. 8) and statement are created by the researcher.)
commitments. In Stage 3, Management, individuals consider how to implement the innovation efficiently, and how to make the best use of information and resources. Issues around managing, organizing, and scheduling may occur. In Stage 4, Consequence, individuals have intensive concerns about the impact on students, including the relevance of the innovation, evaluating students, and changes to improve students’ outcomes. In the collaboration stage, Stage 5, Collaboration, individuals focus on how to collaborate or cooperate with others to apply the innovation. In the last stage, Stage 6, Refocusing, individuals focus on how to improve the innovation’s applications, how to maximize the benefits of the innovation or how to revise current usage to a more cogent alternative.

The seven stages of concern consist of three different types of concerns: Self, Task, and Impact. Self concerns are low level concerns which “evolve around general characteristics, effects, requirement of use and financial or status implications of the innovation” (Samiei, 2008, p. 26). Task concerns are associated with the process and task-related matters. Impact concerns reflect a more advanced level of involvement than the other types of concern. These dimensions are also provided in Table 2.

At the initial phase of an innovation’s use, educators typically have intensive Self-concerns (Stage 1, Informational; Stage 2, Personal). They would like to know more about the innovation and discover any changes that the innovation might bring. Educators are also curious about when the innovation will be implemented, who will be charge of the change, and how the new model is expected to work. Even though educators may not state it openly, they may still have intense personal concerns in the pioneering phases. Teachers may also worry about their abilities, responsibilities, the possibility of mistakes, and changes to their work routines.
*Task-concerns* (Stage 3, Management) are likely to be most intense in the latter part of innovation preparation (Hord et al., 2006). In the early stages of use, educators will consider management concerns such as meeting various student needs and differing learning styles, maximizing the effectiveness of learning materials, planning for additional prep-time prior to instruction, and arranging classroom procedures and materials.

When the innovation catches on across schools, all educators may develop intense *Impact-concerns* (Stage 4, Consequence; Stage 5, Collaboration; Stage 6, Refocusing). Only a few educators will reach the impact level. Such concerns may include the outcome of activities related to the innovation, how they will work together with others, or how they may find better ways to apply the innovation.

The Levels of Use (LoU) is the second dimension. As mentioned earlier, the primary responsibility of the facilitators of the change is to guide individuals to the successful implementation of the innovation. To do this, they need to know how well individuals are using the innovation. LoU describes “the behaviors of the users of an innovation through various stages—from spending most effort in orienting, to managing, and finally to integrating use of the innovation” (Hord et al., 2006, p. 54). LoU attempts to categorize individuals operationally in terms of what they are doing, rather than identifying the causality or attitudinal, motivational or other affective aspects of the user (p.54).

The Innovation Configuration (IC) is the third diagnostic dimension of CBAM. The IC determines characteristics of the innovation, and it works as a frame of reference when the innovation is implemented. The IC is developed to gather and summarize data “identifying the basic components of an innovation and, within each component, identifying the variations that
describe how individual teachers might use the components in their classrooms” (Hall & Hord, 1987, p. 116).

The IC can be a meaningful tool for various reasons (LaTurner, Lewis, & Litke, 2013, p. 28). For research, an IC map standardizes what participants in a control group should do to guarantee consistency. To disseminate an innovation, an IC map can demonstrate what a new practice looks like, and what it does not look like. It also provides data to identify characteristics regarding an innovation which could be needed for future development. Moreover, it is a useful tool to illustrate the scope of the innovation that has been implemented.

2.3.5 Intervention Taxonomy

Although the three diagnostic dimensions of the CBAM provide a deep understanding about educators’ concerns and their use of a particular innovation, they do not offer action plans to change facilitators on the basis of the assessment. In order to address such shortcomings, CBAM researchers developed the concept of interventions. An intervention is “an action or event or a set of actions or events that influences use of the innovation” (Hall & Hord, 1986, p. 143). Six levels of intervention have been determined: policy, game plan, strategy, tactics, incident, and theme (Hall, Zigarmi and Hord, 1979, p. 23). (1) In implementing an innovation, policy dictates the procedures and actions of the organization overall; (2) the game plan is the actual action plan used to implement the innovation, and includes six components; (3) the strategy is a framework for action that demonstrates how to actualize the design of the game plan; (4) tactics are the methods used to operationalize the strategies. They are used for a relatively short period of time and are likely to be applied to a particular innovator rather than to all of the educators; (5) an incident is a single action or event implemented for a very short time period, and (6) a
theme is the only unsponsored intervention and refers to “the set of actions and their cumulative effect on the change effort” (p.21).

For people who are responsible for the innovation in schools, the CBAM suggests some possible interventions for each stage (Hord & Loucks, 1980; Hord et al., 2006). For example, the model proposes the following interventions to educators who have high Stage 2, Personal concerns, “establish rapport, encourage and assure the teacher s/he can do it” (Hord & Loucks, 1980, p. 29). When the researcher developed a discussion section of the study in section 5.5, the researcher took advantage of these interventions according to the results from the surveys.

2.3.6 Application of CBAM in Leadership Studies

Since the 1980s, the CBAM has been applied to evaluate educational innovations. Several researchers have applied the SoCQ to enhance educators’ leadership roles in implementing new innovations. For example, Hord and Thurber (1982) trained principals how to use the SoCQ to enhance their leadership skills when integrating a new curriculum. According to the authors, principals in Florida identified school teachers’ concerns and applied interventions to address them. Most principals reported that the given interventions solicited teachers’ concerns, and this study confirms that principals’ engagement with the leadership tools helped the teachers address each of the stages of their concerns.

Wells (1999) studied the concerns of nine school leadership personnel with regard to implementing the Texas Essential Knowledge and Skills (TEKS) curricular requirements. He conducted surveys and semi-structured interviews with principals, superintendents and technology coordinators within the Salk Fork Educational Technology Consortium. Applying the CBAM theory, Wells finds that the participants are primarily at the TASK level, indicating that they are likely to have more advanced concerns. He also discovered seven thematic concerns
about attitudes, power, student learning, distance learning, staff training, infrastructure, and finances. This study is an example of how to apply the SoCQ to a school leadership cadre, but the author does not introduce any interventions in order to increase their leadership.

Hoyt (2000) analyzed the comments from the transcripts of the recorded focus group sessions to identify the three sources of data: what are the training needs of educators; who are responsible for implementing inclusive education; where their concerns are located based on the CBAM model; and how transformational leadership works. In order for educational administrators to provide the tools to inform themselves about educators’ concerns, the author applied the CBAM model. As a result of the study, the author determines that educators have high intensity in Stages 0, 1 and 2, and suggests some useful interventions to enhance school-based administrators’ leadership. For example, the author urges that administrators should present general descriptive information about the new program and how this impacts educators.

Buckner’s (2013) research has the most similar design with this present study. The author explored elementary principals’ perception about the implementation of Response to Intervention (RtI) in North Carolina. The author finds that while Unconcerned (Stage 0) is the most frequent peak concern area, Consequence (Stage 4) is the lowest area of concern. The descriptive and statistical results from the study are suggested as implications for leadership practices.

2.4 Conclusion

In this chapter, a review of the literature related to school librarians’ leadership roles in technology integration and the emergence of digital textbooks and the CBAM theory is presented. Previous studies demonstrate that school librarians should play a critical role in technology integration and studies show which factors can promote this role. Despite the studies’ emphases on the importance of school librarians’ roles, other studies report a discrepancy
between research and practice. School librarians still need more effort to be leaders, and they should have more knowledge to prepare for new innovations. However, there is a dearth of research evaluating school librarians’ current stages of concern and providing a practical procedural guide for them. A formal study of their concerns when this new innovation is being imposed could provide research data that will contribute in providing this leadership guide.

The current study, as an attempt to bridge this gap, identifies the current stages of concern that school librarians have associated with digital textbooks by applying the SoCQ, one of the techniques for the CBAM. The data from the surveys is associated with the CBAM, and can be used to align interventions such as professional development to enhance school librarians’ leadership roles in technology integration.
CHAPTER 3

METHODOLOGY

3.1 Introduction

The research methodology is determined by considerations about not only the nature of the research questions, but also the researchers’ experiences and target audiences. Research methodology, therefore, is a spiral stream that covers research design, sampling, ethics, coding/measurement, and analysis (Vogt, Gardner, & Haeffele, 2012). Indicating those factors, this chapter provides a framework for the design and execution of the study of school librarians’ concerns in the implementation of digital textbooks. The content of this chapter covers a description of the design and research questions; survey design; instruments; data collection procedures; validity and reliability of that data; benefits, assumptions and limitations; ethical considerations; and a conclusion of the chapter.

3.2 Research Design

This study postulates that survey is an essential method in the investigation of school librarians’ concerns, including perceptions, feelings and attitudes regarding digital text-books in two different geographical settings, Florida and South Korea. The researcher collected archival data by employing the Stages of Concern Questionnaire (SoCQ) and added to that questionnaire 10 questions regarding demographics which seek to explore relationships between the SoC and individual’s characteristics. Applying the SoCQ, the researcher employed the two analytic methods that were recommended by Hord et al. (2006): raw scores and percentile scores.
3.3 Research Questions

The study is framed by the research questions that were previously delineated in Chapter One.

- **Research Question 1:** Based on the Stages of Concern (SoC), what are the school librarians’ stages of concern regarding the mandated implementation of digital textbooks in Florida?

  1) Based on the SoCQ, what are the school librarians’ highest stage of concern surrounding implementation of digital textbooks?
  2) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ experience in years?
  3) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ technology adoption style?
  4) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ personal experiences with e-books?
  5) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians?

- **Research Question 2:** Based on the SoC, what are the school librarians’ stages of concern around the implementation of digital textbooks in South Korea?

  1) Based on the SoCQ, what are the school librarians’ highest stages of concern surrounding the implementation of digital textbooks?
  2) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ experience in years?
3) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ technology adoption style?

4) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ personal experiences with e-books?

5) Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians?

• Research Question 3: Are there significant statistical differences in the stages of concern identified for school librarians in Florida and South Korea?

1) What are the differences between the highest and second highest stages of concern for school librarians in Florida and South Korea?

2) What main factors influence the differences in these two marginal stages?

These three main questions describe in detail the school librarians’ level of concerns. The first research question elaborates Florida school librarians’ levels of concern regarding digital textbooks, while the second research question elaborates those of school librarians in South Korea. The third research question focuses on the differences between the two groups and analyzes the main factors that influence these variations.

3.4 Survey

A survey is a common research method that studies a relatively small sample to determine trends involving, attitudes toward, or opinions held by a population about a given phenomenon (Babbie, 1973; Connaway & Powell, 2010; Creswell, 2009). The literal meaning of survey is to look carefully or examine some situations thoroughly. In a broad sense, therefore, to survey is to observe something. In the purposed study, a survey is a method in which the researcher collects data from individuals, using questionnaires, with the intent of generalizing
results from a smaller group, sample, to a larger group, population. The original purposes of a survey were description, explanation and exploration studies, but today survey purposes are specialized to cross-sectional study, trend study, cohort study, panel study, approximation of a longitudinal study, parallel samples study, contextual study, sociometric study and critical incident study (Babbie, 1973; Connaway & Powell, 2010).

3.4.1 Rationale for Employing a Survey

With its lengthy history, survey research has numerous proven advantages. The strongest element of a survey is that researchers can clarify and understand new concepts, problems, and phenomena by studying a small number of samples. By following scientific and logical procedures, researchers can draw inferences about a large group from the results of the sample. Survey research enables researchers to gather contemporary data more easily, as it collects a relatively small amount of data, and facilitates studying more personal factors such as opinions, beliefs, attitudes, values, and experiences, as well as objective facts (Connaway & Powell, 2010). These characteristics also make survey research cost-effective and reduce geographical issues for researchers (Schutt, 2009).

Perhaps the greatest strength of survey research is in the way it is conducted. Standardized surveys and advanced statistical analysis techniques allow researchers to test observations numerically, avoiding conflicts regarding validity and reliability (Creswell, 2009). Since a survey is facilitated by following and carefully implementing a researcher’s own logic, and because survey research has developed step-by-step over time, researchers can test comprehensive propositions with various variables (Babbie, 1973, p. 46).
3.4.2 Unit of Analysis

This study combines two kinds of units of analysis: individual school librarian and groups of school librarians in Florida and South Korea. For the first two research questions, the researcher collected data from an individual school librarian and analyzed that librarian’s scores. In fact, studying an individual librarian’s concern is essential to the CBAM theory because it is designed to measure “the personal side of change” (Hall & Hord, 1987, p. 53). Moreover, individuals’ adoption patterns of innovation are decisive factors in successful implementation (Straub, 2009) and the individual can impact the organization’s ability to adopt the innovation and its outcomes as well (Jantz, 2012). Data for the research questions one and two were collected from each K-12 school librarian working in Florida and South Korea.

In contrast, the third research question deals with a comparison of two cases and the unit of analysis for the question is the two groups of school librarians. The researcher manipulated the two groups’ average levels of concern in four basic areas: Impact, Task, Self and Unconcerned. The difference between the two groups is that one group is comprised of school librarians in one state, while another group is comprised of school librarians in one nation. In terms of applying multilevel unit of analysis, it is worthwhile to refer to Manzon’s (2007) assertion. Manzon emphasizes the importance of establishing parameters for the initial comparability of units of analysis, while elaborating the use of geographic entities as a unit of analysis. According to Manzon, there are seven geographic entities as units of analysis: world regions/continents, countries, states/provinces, districts, schools, classrooms and individuals. Recently, however, Manzon argues that the number of studies dealing with multilevel analysis is increasing, and studying these geographic entities could be considered a balanced and holistic way to understand educational phenomena (Manzon, 2007, p. 116). The spiral process across the macro, meso and
micro levels of units enables researchers to study not only globally and universally but also
individually or situationally. Scheuch (1989) also agrees that the unit of explanation should differ
according to the purpose of research. The author purports that using a country as a unit of
research is practically easy, but it is not always unique. Therefore, when designing a survey, as
Scheuch (1989) argues, researchers should consider intervening and contextual factors and
choose a data collection frame based on those theories. This study targets two population groups
which are distinguished by geography and culture. School librarians in Florida and South Korea
are not the same geographical entities. However, practically, there are many occupational
similarities between those two population groups, and both groups have systematic educational
departments and regulations. By comparing two different units facing similar challenges in
adopting the same innovations, this study attempts to more specifically describe the culture
related to school library systems in Florida and South Korea in terms of their respective stages of
concern.

3.4.3 Population and Sampling

3.4.3.1 Population. The population of this study includes all school librarians who work
for primary and secondary school libraries in the state of Florida and the nation of South Korea.
Often called “school media specialists” or “teacher librarians”, this population engages in a
diverse range of roles as leaders, instructional partners, information specialists, teachers, and

3.4.3.1.1 School Librarians in Florida. 2,182 school librarians—including “audio-visual
workers”—worked in Florida as of fall 2013 (The Florida Department of Education, 2014).
2,165 full-time school librarians worked in 68 school districts and there were 17 part-time
librarians (K. Ward, personal communication, December 31, 2014). According to Florida state
law, school librarians are responsible for library services, making information resources available, and holding a proper professional certificate (Florida Statutes, 2012). In Title XLVIII—which deals with education issues including student and parental rights, public education, educational financial assistance, and funding—Chapter 1012 Section 01 lists personnel roles, defining school librarians/media specialists as the following:

Staff members responsible for providing school library media services. These employees are responsible for evaluating, selecting, organizing, and managing media and technology resources, equipment, and related systems; facilitating access to information resources beyond the school; working with teachers to make resources available in instructional programs; assisting teachers and students in media productions; and instructing students in the location and use of information resources (para. 5).

3.4.3.1.2 School librarians in South Korea. The 2013 Korea Library Yearbook (Ministry of Culture Sports and Tourism & Korean Library Association, 2014) reports 5,087 school library personnel (including 674 school librarians) who were classroom teachers with library certificates and 4,413 practical education teachers. Furthermore, the Libraries Act (Ministry of Culture Sports and Tourism, 2012) describes school librarians’ roles as administrators, educators, and information service providers. Article 38 of the Libraries Act, however, places more emphasis on school librarians’ traditional roles. Although the law mentions some roles related to educational technology, these roles are confined to those that “assist in the teaching and studying activities of students, [and] teachers” (para. 38) rather than roles specifically as technology leaders. This role includes the following requirements: Collection, organization, preservation, and provision of services of materials necessary for school education;
• The collection, organization, preservation, and provision of services for materials necessary for school education;
• A combined administration and provision for use educational materials kept by a school;
• The development, manufacture, and provision for use of audio-visual materials and multimedia materials;
• The construction of an information sharing system utilizing information management systems and communication networks, as well as the provision for use of such a system;
• The education of information utilization through education on library use, reading, cooperative teaching, etc.; and
• Other duties necessary for the execution of functions as a school librarian.

3.4.3.2 Sampling. To select the participants for the survey, the researcher applies availability sampling, sometimes known as accidental, convenience, grab, or opportunity sampling, which can increase the likelihood of sampling error. In availability sampling, participants are recruited because they are available or easy to find (Schutt, 2009, p. 170). Despite this convenience, the results can differ from those that might be obtained from an entire population, thus leading to possible systematic bias. Along with that bias, availability sampling has a limited value in generalizing and making inferences about the population, which may reduce opportunities for applications to settings with other populations or treatments. Despite these potential errors, however, availability sampling is often appropriate in social research, and is widely used in social science research because it is convenient, inexpensive, and easy to conduct. Availability sampling can thus be particularly useful when researchers examine a new setting, attempt to ascertain prevailing attitudes, or conduct initial research using a new set of questions (Schutt, 2009).
Availability sampling can increase the likelihood of sampling error (Leeuw, Hox, & Dillman, 2008; Pickard, 2007; Schutt, 2009). This survey was well-designed, however, and the screening criteria is given to reduce sampling errors. The researcher endeavored to promote the research and recruited the greatest possible number of participants to better analyze the results. Also, this study provides the demographic information of integrated samples and the population itself to allow readers to compare the two data sets and infer the similarities and differences between them.

3.4.3.3 Participants. The participants in this study were volunteers among school librarians who were invited by promotional emails during the 2014 school year. An assumption from the availability sampling was made that the participants’ demographics were statistically similar to the target population. The three demographic questions collected during the surveys were used to evaluate this assumption that each sample group was identical with the population. The details about the survey process to obtain participants is shown in section 3.4.5.4 and the section 4.2 covers the details of participants’ characteristics.

3.4.4 Instrument Design: the SoCQ and Demographic Survey

3.4.4.1 The description of the SoCQ. The SoCQ is the primary method to identify where an individual’s major concern is in the stages alongside one-legged conferencing and open-ended concerns statements (George et al., 2013; Hall et al., 1977; Hall & Hord, 1987). While one-legged conferencing consists of brief moments of conversation with teachers to assess concerns and deliver an intervention, open-ended concerns statements let teachers “describe in writing their concerns about a particular innovation” (Hall & Hord, 1987, p.66). The other way is The SoCQ enables researchers to conduct more systematic study and a study with more reliable data (Hall & Hord, 1987). It consists of 35 items, using a seven point Likert scale, and it is
designed for teachers to respond completely in ten to 15 minutes. The SoCQ is widely used because of its usefulness in helping explain developing patterns for perceived concerns and attitudes that individuals experience.

The Southwest Educational Development Laboratory (SEDL) in Austin, Texas, holds the copyright to the Stages of Concern Questionnaire and charges $.50 per questionnaire completed. The online questionnaire allows up to 15 multiple choice questions using a subgroup question set-up function. Moreover, it offers an ‘optional custom prompts’ function which enables one to customize up to 10 open-ended text questions to obtain additional information.

Measurements should be developed to minimize errors by presenting questions clearly and with effective organization. Since modifying the statements of the questionnaire of the SoCQ can be a threat to the reliability or validity of the study (George et al., 2013), the researcher does not revise any items. Moreover, since the SoCQ is not designed to be combined with other assessment tools, personality assessment in particular, the researcher adds to the SoCQ only some demographic items and independent variables.

The SoCQ has several advantages. First, it is convenient and simple for a researcher to manipulate as well as for participants to answer, because its format is systematic and all question items can be placed on one page (Hollingshead, 2009). In other words, the SoCQ questionnaire enhances survey scalability and expandability. Its strong reliability and validity have been confirmed over time. The SoCQ’s test-retest correlation results ranged from 0.65 to 0.86 of Cronbach’s alpha (Samiei, 2008). Moreover, its internal consistency ranged from 0.64 to 0.83 of Cronbach’s alpha. The testability of SoCQ is verified and it provides abundant interpreted level: Peak Stage Score Interpretation, First and Second High Stage Score Interpretation, and Profile Interpretation (Hall & Hord, 1987; Samiei, 2008).
3.4.4.2 A comparison study applying the SoCQ. Particularly when researchers conduct comparative studies, the way questions are asked is critical. Harkness (2008) categorizes three approaches of comparative survey research: (1) simultaneous, parallel, and sequential approaches, (2) Ask-Different-Questions (ADQ) and Ask the Same Question (ASQ) models, and (3) emic and etic approaches. Among these various models, the most frequently adopted in comparative survey research is the sequential ASQ approach, because of its convenience. In this approach, a source questionnaire is developed in one context and other versions are translated later. The same questionnaires translated into other languages are applied to different populations. This method allows researchers to create an item-for-item comparison; but this method may also lack cross-cultural input (Harkness, 2008). In order to solve this problem, researchers added some emic, culture-specific, questions. In his conclusion, the author emphasizes the importance of translation and several practical tips (Harkness, 2008). In this study, the researcher applied the sequential ASQ approach with two modified items for each country as open-ended questions.

Because the Korean version of the SoCQ, which obtained permission from SEDL, did not exist before, the researcher needed to develop the official Korean SoCQ with assistance of one of the CBAM founders. In order to ensure that the process of translation does not distort the meaning of the SoCQ, the researcher applied two approaches. Basically, the researcher followed TRAPD (Translation, Review, Adjudication, Pre-testing and Documentation) approach, which requires a draft translation, a review session with translators and reviewers, adjudication for unresolved is-sues, adaptation of the survey and production of a translation (Harkness, 2008). For the translation and review processes, the researcher employed a back-translation approach. First, the researcher translated the latest SoCQ, form 075, into Korean referring to the previous
Korean studies. Two other bilingual (Korean-English) doctoral students in the College of Education at Florida State University, who have never seen the English SoCQ, translated the Korean items back into English. Then, one of the CBAM founders compared the back-translated English version with the original version and identified the items with discrepancies in meaning. The team had a plan if disagreements were found, three researchers would discuss them and find a common resolution; but, no disagreements were found. To test the Korean SoCQ, the researcher conducted a pilot survey with two Korean school librarians to confirm that they believed the Korean SoCQ was measuring the correct concerns.

3.4.4.3 Demographic survey. The second section of the survey instrument includes 10 items: six items for independent variables, two items for demographic information and two open-ended questions. The researcher developed the questions and scales to measure independent variables based on the previous studies. The two items for the first independent variable ask about participants’ teaching experience and pace of adoption. Since the CBAM model assumes that the stages of concern progress according to individuals’ experience and expertise (Fuller, 1969; Mardis, 2007), this item is essential to be asked. The second item is chosen based on Rogers’s Diffusion of Innovation theory (DOI) (Rogers, 1983). Rogers categorized individuals according to the amount of time they take to adopt an innovation, thereby producing the diffusion curve, commonly called S shape or a normal curve. Innovators are a group of first individuals that take the risk of accepting the innovation. They are characterized as having the highest social standing, wealth, and closest contact to scientific sources. Early adopters, the second fastest group, also have high socioeconomic status and advanced education. Early adopters are typically on the forefront of holding a certain opinion and help spread an innovation. The early majority adopt an innovation after some time goes by. The late majority and laggards
are the two groups that are the slowest to adopt an innovation. The remaining independent variables stem from the previous research; the researcher scrutinized 10 studies, which employed the SoCQ to study teachers’ or school librarians’ concerns regarding technology innovation. As a result, experience with previous technology (El-Saleh, 2011; Joffrion, 2014; E. Lee, 2012; Yang & Huang, 2008), in this case e-books and training sessions (Buddy, 2002; Hadjipavli, 2011), are chosen.

The two other items pertain to participants’ positions and part-time or full-time status. Two open-ended questions asked to find out this group’s opinions and concerns.

3.4.5 Data Collection Procedures

This section addresses the procedures the researcher conducted to collect data from the pretest to validate the research model in the distribution and compensation to the participants.

3.4.5.1. Pretest. Since multinational survey research is a part of scientific research, a solid understanding of this study’s research methods is required. Researchers should remember, however, that increased complexity leads to increased study costs: because all expenses are paid multiple times, it is often difficult to find sufficient funding sources (Harkness, 2008). The researcher, of course, recognizes that a comparison study requires doubled time and cost.

In order to reduce expense, the researcher conducted a small-scale version of the SoCQ with 170 Florida school librarians and interviewed 20 Korean school librarians. The experience gained through conducting this SoCQ allowed the researcher to better understand the important processes and functions of the questionnaire. It was also helpful for the researcher to establish relationships among independent and dependent variables to collect preliminary data. In addition, the opportunity to conduct interviews provided valuable insights about Korean school
librarians as well as about research protocol. The know-how and experience from the previous research thus helped the researcher in reducing disadvantages related to survey design.

3.4.5.2. Approval process. In order to initiate the study, the researcher contacted two representative third parties for school librarians in two places: the Bureau of Standards and Instructional Support in Florida Department of Education and the Korea School Library Association. The researcher consulted the research methodology with them and gained permission to conduct surveys. Prior to recruiting participants, but after having obtained these two associations’ permission, the researcher obtained an approval from the Human Subjects Committee at Florida State University (Appendix F) with two versions of an informed consent form (Appendices C and D). The consent form introduced a study and survey; asked for their voluntary participation; described the study’s risks and benefits; detailed how data would be secured; and provided contact information of the researcher and Human Subjects Committee as well.

After the prospectus presentation, the researcher modified the Human Subjects Committee’s approval in accord with the changes of the survey questionnaire.

3.4.5.3. Online survey. The researcher conducted the surveys online. Online surveys have become an excellent option because of their unique advantages: they are easy for researchers to create using various visual/audio features, and the convenience of checking responses nearly negates any data entry errors. By the same token, participants find online surveys easy to complete, and will often provide truthful and detailed responses (Andrews, Nonnecke, & Preece, 2003; Schutt, 2009). Also, Andrews et al. (2003) assert that an electronic survey can remedy the imperfections of a survey research design due to several distinctive characteristics, including cost effectiveness, speedy distribution, short response cycles,
multimedia capabilities, automatic verification, and survey response capture. Regarding the survey for Florida school librarians, the researcher maintained the survey using SEDL’s encrypted SoCQ since the Southwest Educational Development Laboratory (SEDL) holds the copyright. The website allowed the researcher to customize survey questionnaires, data output, and the password for the survey.

Regarding Korean school librarians, the researcher created the survey via Qualtrics, a survey tool provided by the Florida State University. Qualtrics provided the researcher with a user-friendly interface for setting up the survey for participants to access via various devices, including computers and mobile phones. The limitations to applying two different versions of questionnaire are detailed in section 3.6.

3.4.5.4. Conducting surveys and promotion. In order to recruit potential participants, the researcher promoted surveys by sending email invitations. For the survey in Florida, the staff in the Office of Library Media Services and Instructional Technology in the Florida Department of Education sent out the invitations on November 14, 2014. Despite the request to spread out the invitations, however, they reached only district media specialists and instructional materials specialists: only 20 school librarians participated before that Thanksgiving break on November 23rd. After the break, the researcher accessed each school’s homepage and located school librarians’ email addresses. From December 1 through 12, the researcher sent 1,800 invitations across 63 school districts, excepting nine districts including the school districts of Hernando, Lafayette, Lee, Levy, Liberty, Nassau, Palm Beach, Putnam and the Florida School for the Deaf and the Blind. There were several reasons for not sending invitations to these districts: one district required the district’s research and evaluation process, which would take over a month. Some districts did not have school librarians, and most of them did not provide each teacher’s
email addresses. 45 emails were returned because of incorrect addresses, and the reminder emails were distributed after the initial invitations were sent. The researcher received several encouraging messages, enabling follow-up interviews with practicing school librarians. The survey closed on December 19th. During the four weeks (except for Thanksgiving week), 209 school librarians completed the survey. The SEDL system did not provide any information about the number of participants who viewed or started the survey, as it charges based on the number of completed surveys.

Regarding the survey in South Korea, the survey was conducted over one month, from November 12th through December 13th, 2014, local time. The staff of the Korea School Library Association sent out the first promotional emails to about 2,000 school librarians on November 14th. The remaining emails were distributed twice during the survey on November 19th and December 2nd. During this month, the survey was opened 769 times: 291 participants started the survey, while 259 of them actually completed it.

3.4.5.5. Post surveys. Of the 1,755 invitations that were sent to school librarians in Florida, 209 (11.9%) responded, which represent 9.6% of the population (2,182). Among the 163 participants who wanted to receive gift cards, the researcher selected 25 participants at random, whereupon $10 Amazon gift cards were distributed via email on December 21st, 2014, and the reminders were sent on January 5th, 2015 to participants who did not redeem their cards.

Of the invitations that were sent to about 2,000 school librarians in South Korea, 259 completed the survey (about 13.0%), representing 5.1% of population. The same method was applied to select the winner who would receive ₩10,000 (Korean Won, the equivalent of $9.2) in online gift cards. The researcher selected 27 winners among the 167 participants who applied for the gift cards, which were sent on December 21st, 2014. The announcement about how to use
the card and contact the researcher were sent right after the gift cards, since the system did not allow the researcher to trace the online cards sent to each individual.

3.4.5.6. Data management. All results retrieved from the two surveys were converted into Microsoft Excel 2013 to allow for proofreading. The Excel files were protected, with the password known only to the researcher. The researcher screened to find outliers and missing values. For statistical analysis, the raw data in both places were entered in the Statistical Package for Social Sciences (SPSS), version 21.0. Since the South Korean version of SoCQ was employed for the first time, data reliability for each variable was checked by Cronbach’s alpha, the most frequently used test for internal consistency (Gliem & Gliem, 2003), ranging between 0 and 1, closer to 1.0 indicating greater internal consistency. As a rule of thumb, if Cronbach’s alpha is greater than 0.9, the internal consistency is considered to be excellent, alpha between 0.7 and 0.9 indicates good internal consistency, and between 0.6 and .7 alpha implies acceptable internal consistency. The overall Cronbach’s alpha for the Korean SoCQ was 0.955, showing that the survey questionnaire had a strong internal consistency. As Table 3 indicates, each stage’s Cronbach’s alpha is greater than 0.6, confirming that each stage has good internal consistency.

Table 3. Cronbach's Alpha of Korean SoCQ

<table>
<thead>
<tr>
<th>Stages</th>
<th>Stage 0, Unconcerned</th>
<th>Stage 1, Informational</th>
<th>Stage 2, Personal</th>
<th>Stage 3, Management</th>
<th>Stage 4, Consequence</th>
<th>Stage 5, Collaboration</th>
<th>Stage 6, Refocusing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach’s Alpha</td>
<td>.629</td>
<td>.837</td>
<td>.875</td>
<td>.717</td>
<td>.845</td>
<td>.899</td>
<td>.847</td>
</tr>
</tbody>
</table>
3.4.6 Data Analysis

In an effort to comprehend school librarians' concerns on the integration of digital textbooks as a new technology, the researcher analyzed the data in descriptive, correlational, and exploratory ways.

The SoCQ model assumes that every user or potential user involved in a change has some degree of concern across all seven stages (Hord et al., 2006). However, each individual may experience different intensity levels during each stage of concern. To measure school librarians’ level of concern for each stage, the researcher employed the Stages of Concern Questionnaire (SoCQ), which comprised of 35 items, using seven stages of concerns having five items for each stage. Each item had eight scales ranging from 0, “This statement is not true of me” to 7, “This statement is very true.” In order to calculate the intensity of each stage, a three-step process was used.

First, each stage’s sum was aggregated from the scores for all five items. For example, items 3, 12, 21, 23, and 30 belong to Stage 0, Unconcerned. To find the total for Stage 0, therefore, the total score of items 3, 12, 21, 23, and 30 was added together. Second, the average score was calculated by dividing the sum of raw scores by the number of total participants. These raw scores were used for statistic tests, including t-tests to answer Research Question 3. Lastly, the resulting percentiles were determined by a raw score-to-percentile conversion table, which provided the prior percentiles for each stage by Hall, George, & Rutherford (1977). The percentiles of the different levels of concern were calculated by matching the average score of each stage to the established percentiles. These percentile scores thus enabled the researcher to obtain a SoCQ profile. Applying the SoCQ, which has been verified many times, without any
modification or merging with other tools, freed the researcher from concerns about the effective organization of questions, as well as issues about reliability or validity.

3.5 Validity and Reliability

3.5.1. Validity of the SoCQ

Validity refers to the state that conclusion of study concerning empirical reality is correct (Schutt, 2009). To establish this important concept, George et al. (2013) report that the authors have applied inter-correlation matrices, confirmation of concerns based on interview data and verification of group differences and changes over time.

The initial step to develop the SoCQ began in 1973 with various methods such as open-ended questions, Likert scales and adjective checklists, and interview protocols (George et al., 2013; Hall, Wallace, & Dossett, 1973). The 544 potential statements were given at the very first step. Through several tests, the statements were condensed to 400, and again to 195, statements. After employing a factor analysis, the researchers selected 35 items, five for each of the seven stages. The authors have made an effort to update the SoCQ by modifying or replacing items.

3.5.2. Reliability of the SoCQ

Reliability refers to a measurement process achieve consistent results under the identical condition (Schutt, 2009). The internal reliability of the SoCQ has been proven. Hall et al. (1973) tested items to demonstrate whether items correlated more with “responses to other items measuring the same stage than with responses to items on other scales” (p. 11). The alpha coefficients of its internal consistency in the seven stages indicated reliability of .64 to .83 with six of seven coefficients above .70 (Hall et al., 1973). Two weeks later, the authors conducted the retest survey, and they obtained high test-retest correlations, as seen in Table 4.
<table>
<thead>
<tr>
<th>Stage</th>
<th>Stage 0, Unconcerned</th>
<th>Stage 1, Informational</th>
<th>Stage 2, Personal</th>
<th>Stage 3, Management</th>
<th>Stage 4, Consequence</th>
<th>Stage 5, Collaboration</th>
<th>Stage 6, Refocusing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson-r</td>
<td>.65</td>
<td>.86</td>
<td>.82</td>
<td>.81</td>
<td>.76</td>
<td>.84</td>
<td>.71</td>
</tr>
</tbody>
</table>

(*Source: Hall et al., 1973)

One of the practical issues the SoCQ used to face was the ambiguity of Stage 0, Unconcerned (Hall & Hord, 1987; Schoepp, 2004). Before its modification, in order to interpret a peak Stage 0 score, researchers had to look at other stages because Stage 0 did not clearly explain whether or not users were aware of a given innovation or if they were merely interested in the innovation. To clarify this vagueness, George et al. (2013) revised both items in Stage 0 and their norms, which was undertaken for their recent publication. Stage 0, Unconcerned, means “the degree of interest in and engagement with the innovation in comparison to other tasks, activities, and efforts of the respondent” (p. 33). Therefore, if there is a higher score in Stage 0, Unconcerned, researchers can interpret that “there are a number of other initiatives, tasks, and activities that are of concern to him or her” (p. 33). That means the respondent is concerned about not only the innovation, but also other issues. On the other hand, if there is a lower score in Stage 0, Unconcerned, researchers can interpret that “the innovation is of high priority and central to the thinking and work of the respondent” (p. 33).

### 3.6 Assumptions, Benefits and Limitations

An assumption is made that participants’ demographics, such as gender, age, working experiences and ethnicity, are statistically similar to the school librarian population.

School librarians may have benefited from the research results and suggestions in recognizing the process of implementation of digital textbooks, identifying their concerns and,
ultimately, considering advanced methods to improve their leadership roles regarding integrating new educational technologies. As a result of the study, students, the ultimate beneficiaries, may also receive the improved service of school libraries.

Although the risks to participants are minimized, several limitations can be found. A primary limitation of the investigation is inherent in the nature of a survey method. The participants may have been alert to the intention of the instrument. Also, not all school librarians are equally articulate and perceptive regarding digital textbooks. Each librarian has a different command of language and different ways of expressing themselves. One more potential limitation comes from the process of translation of the survey questionnaire. Although the researcher translates the questionnaire flawlessly, the percentile tables from the CBAM theory remain in their English versions. Therefore, employing the English percentile tables with Korean responses may threaten the statistical analysis. In addition, the fact that the researcher applied the two different survey sites can be a threat to instrumentation validity, refers to the changes of instruments (Shadish, Cook, & Campbell, 2002).

3.7 Ethical Considerations

In order to promote the aims of research, a researcher should practice ethical research by protecting participants, establishing trust, upholding personal accountability, monitoring scientific misconduct and managing difficulties (Schutt, 2009). Based on the topics that Babbie (1973) raises, the researcher identifies the issues below.

Babbie (1973) proposes five ethical issues related to survey methods. One major tenet is voluntary participation. All respondents should participate in a survey of their own free will, unforced. Survey research should not be physically or mentally harmful to any participants who are willing to cooperate with a researcher. The study only recruited participants who wanted to
contribute to the study by their own free will. In addition, participants could opt out at any time or refuse to answer any of the questions.

A researcher needs to be aware of any possibility for respondents to feel offended, and guide them to avoid this. Nardi (2006) underlines that the informed consent process is critical, in discussing potential effects of the survey on participants’ privacy and any physical or mental danger. A researcher should let participants know about intended harm by explaining what would happen during a survey, so that participants can be informed about how much their privacy will be compromised and decide whether they desire to participate in the survey at all. In this study, although there is no risk beyond what one would normally face in everyday situations, the researcher informed participants about the purpose of the study and assured them that their responses do not affect their current jobs or positions as school librarians.

The third issue is the protection of the participants’ identities, that is to say anonymity and confidentiality. Anonymity means that a researcher ensures that there is no way to connect any identifying information with any of the survey respondents (Nardi, 2006, p. 35). Babbie (1973) points out that in case a researcher needs to conduct any kind of follow-up research, anonymity can be fragile. In particular, he argues that there is always a chance for participants to be identified in a survey, and a researcher should get rid of any possible identifying survey item, for example, a question about a detailed occupation to a specific group of people. The concept of confidentiality is that any information that can be linked to a respondent’s personal identity “is revealed only to the researchers for the main goals of the project” (Nardi, 2006, p. 35). Various techniques can be suggested for confidentiality. For example, a researcher uses identification numbers instead of names or addresses. In addition, a researcher encrypts raw data or discards them after a period of time. To solve these issues, the study implemented the following. Since
this study did not apply any personal information, such as name, contact information, name of school or position, contact information was be collected. Data from the online survey were coded into an Excel spreadsheet and the files were protected with a password that the only researcher knew. The files were saved in a secure external hard drive with encryption. The data will be kept for five years in locked filing cabinets and will be deleted when the research is done.

There is the possibility that the researcher’s purposes may affect the respondents’ answers. This outside pressure can be attributable to specific variables, and it can lessen the construct validity of research and it can be a threat to the construct validity of cause. When participants are aware that they are involved in a study, they may respond in a way to please or displease researchers. Also, participants can get hints from researchers and may change their answers according to researchers' expectations. In cases where the research topic is novel, participants are more likely to have positive attitudes. In order to avoid this violation (Babbie, 1973) suggests the following guidelines:

(1) The researcher should tell nothing about the purpose of the study that is likely to affect the reliability of responses. (2) At the same time, he should tell respondents whatever he can about purposes where such information will not likely affect responses. (3) Explanations of purpose should be kept general rather than specific. (4) The researcher should never offer fictitious reasons for the study.

Following this advice, the researcher was very careful to offer the objective and impartial purpose of the study to participants, since the researchers’ intentions could influence the participants’ responses.

The last ethical issue that Babbie presents is that when researchers analyze and report research, they have obligations to their readers. Researchers should describe the shortcomings
and limitations of their research, including any omission of sampling, respondents’ misunderstandings, or any defect in the design. Even if researchers obtain negative results, unexpected findings, or unanticipated correlations which affect the results, they should report these. Both understanding and interpreting meanings accurately remain an issue for methods. Vogt et al. (2012) address the same issue. Researchers assume all respondents have understood questions in the way that researchers intended. However, there may be a gap between what researchers meant and what respondents understood. Although researchers can spend more time to provide longer questions and lengthier descriptions during in-depth interviews, such interviews provide greater chances for respondents to misunderstand meanings. Also, as researchers interpret and decode meaning, there is always a risk of missteps in the process of semantic disambiguation. To consult the last issue, the researcher stated limitations related to methodology in section 3.6 and the limitations related to the study in section 5.7.

3.8 Conclusion

Chapter 3 details the method and procedures that the researcher has conducted. A survey method enables researchers to collect not only personal/internal information but also less personal/external information (Vogt et al., 2012). A survey is a useful tool for obtaining both objective and subjective answers. By applying a survey, the researcher assured that the study identified and described the Florida and South Korea school librarians’ concerns in the initial phases of the implementation of digital textbooks. Becoming a medium through which school librarians’ voices were heard on the subject of digital textbooks, this research can impact key areas of cognitive research on people influenced by innovation and human factors related to digital textbooks such as leadership, collaboration, and social norms.
Also, comparative research, applying a survey method, examines societies or nations over time in comparison with each other (Babbie, 2010). Cross-national surveys, which are conducted across multiple places, are becoming more popular as the need for global data increases (Harkness, 2008). The study findings, for each setting, not only determined the stages of concern as per school librarians’ practices and experiences, but also compared the stages of concern depending upon their demographic backgrounds and technologies. The study provided an opportunity for school librarians to share their concerns, and helped to inform librarians about digital textbooks in Florida and South Korea as well.

Subsequently, Chapter 4 describes the findings from the two surveys and analyses of the data. Lastly, the discussion of findings, implications and suggestions of the study is presented in Chapter 5.
CHAPTER 4

PRESENTATION OF THE FINDINGS

4.1 Introduction

The primary purpose of this study is to identify school librarians’ Stages of Concern (SoC) during the first stage of implementing digital textbooks. In addition, the study is designed to discern SoC profiles according to specific characteristics in Florida and South Korea, where K–12 schools plan to embrace digital textbooks by requiring school librarians to be leaders in this transition.

This chapter thus presents an analysis of the data collected by the methods delineated earlier, organized in order of research questions. It begins with an analysis of the survey in Florida, followed by the results of the survey in South Korea, with a comparison between the two. The chapter concludes with a summary of findings regarding the three research questions. A synthesis and discussion of said findings will be presented in Chapter 5.

4.2 Data Sample

This study obtained 468 participants from both locations (209 participants in Florida and 259 participants in South Korea). Accordingly, the study had an adequate number of participants for statistical analyses. In order to determine the sample size, Cohen’s power analysis was conducted using G*Power 3.1.9.2 (Faul, Erdfelder, Lang, & Buchner, 2007). Utilizing a repeated measures t-test, expecting an effect size 0.5 and power (1-β prob) 0.95, each location needed a sample size of 105, with a total combined sample size of 210.
4.2.1 Participants in Florida

209 school librarians completed the survey in Florida. The first question in the demographic portion of the survey asked participants about their position: 78.9% of respondents were school librarians and state-certified as both teachers and library media specialists (n=165). 11.5% were school librarians and state-certified as library and media specialists or held a Master's degree in library and information science, but were not certified as a teacher (n=24). The remaining 9.6% held other positions such as administrators, students, university faculty, supervisor teachers, etc. (n=5).

The next demographic question pertained to employment status: the majority (96.2%) of participants worked as full-time school librarians (n=201). Five participants worked part-time in two different schools, the equivalent of a full-time position (2.4%). Only three teachers worked a part-time job (1.4%). According to the Florida Department of Education’s statistics, there were 17 (.8%) part-time librarians during the 2013–14 school year (The Florida Department of Education, 2014). This survey, similar to those statistics, also had only a few part-time school librarians.

The last demographic question asked participants to indicate the number of years worked as a school librarian. The average number of years’ experience was 11.1. Both the mode (the most frequently appearing number) and the median (the middle number in the given value order) were 8.0 years.

4.2.2 Participants in South Korea

Just as above, the first question in the demographic portion of the survey asked participants about their position: half (54.4%) were library teachers with a library teacher’s certificate under Article 21 of the Elementary and Secondary Education Act (n=141). 97 (37.5%)
school librarians were librarian staff qualified under Article 6, Paragraph 2 of the Library Act. There were 12 (4.6%) practical education teachers with a certificate for practical education teaching after the completion of library and information science or library science (under Article 21 of the Elementary and Secondary Education Act). The remaining 9 (3.5%) held such positions as administrators, students, university faculty, etc.

The next demographic question pertained to employment status: 129 (49.8%) participants worked full-time. 108 responders worked part-time in one school (41.7%) and 10 worked part-time in two schools (3.9%). 8 responders had part-time jobs in more than two schools. The remaining four participants answered their positions as other (1.5%).

The last demographic question asked participants to indicate the number of years worked as a school librarian: the average number of years’ experience was 7.5, with a mode of 5.0 years and a median of 7.0 years.

4.3 Data Analysis for Research Question 1

The following section describes the findings concerning Research Question 1 and its corresponding sub-research questions, which asks about school librarians’ stages of concern regarding the mandated implementation of digital textbooks in Florida based on the Stages of Concern Questionnaire (SoCQ). The first sub-question presents the overall SoC for Florida school librarians, while the following four questions describe the SoC according to individual’s characteristics.

4.3.1 Research Question 1.1

RQ 1.1 was “Based on the SoCQ, what are the school librarians’ highest stages of concern surrounding implementation of digital textbooks?” In order to identify the SoC of Florida school librarians, the first sub-research question pertained to the highest stage of concern
surrounding implementation of digital textbooks. The Concerns-Based Adoption Model (CBAM) refers to the highest stage of concern as *peak stage*, which indicates the stage with the highest intensity among the seven stages of concern (Unconcerned, Informational, Personal, Management, Consequence, Collaboration, and Refocusing). In this study, the peak score indicates the specific stage that school librarians experienced the most concern at a point of time during the implementation of digital textbooks. In the context of the CBAM, percentiles are not absolute but rather relative to other stage scores (George et al., 2013).

Figure 1 shows an overall picture of Florida school librarians’ SoC. The data indicate Stage 0, Unconcerned, as the peak stage of concern of school librarians with a 91% intensity of concern, meaning that participants had little concern about digital textbooks or involvement with them (George et al., 2013; Hall & Hord, 2011). According to the CBAM, the higher Stage 0, Unconcerned, does not address whether participants were users or nonusers (George et al., 2013). Rather, the higher Stage 0, Unconcerned, points out that participants were more concerned about the multitude of other obligations, activities, innovations, or tasks.

Overall, the profile represents ‘Negative One-Two Split’ user patterns. The SoC profile has a higher percentile in Stage 2, Personal, than Stage 1, Informational, indicating a possibility of negative reactions from participants. This demonstrates that school librarians’ concern for personal position or job security was greater than their desire to study digital textbooks. The following detailed description from George et al. (2013, p. 8) discusses the individual who has the most concern in Stage 2, Personal:

The individual is uncertain about the demands of the innovation, his or her adequacy to meet those demands, and/or his or her role with the innovation. The individual is analyzing his or her relationship to the reward structure of the organization, determining
his or her part in decision making, and considering potential conflicts with existing structures or personal commitment. Concerns also might involve the financial or status implications of the program for the individual and his or her colleagues.

Although Hall and Hord (1987) take it for granted that non-users are likely to have high Stage 2, Personal concerns, focusing on their ability to employ an innovation or their uncertainty of what that innovation may bring, school librarians with high intensity in Stage 2, Personal, may not be able to consider digital textbooks objectively until their personal concerns have lessened (George et al., 2013). That is to say, it is worth noting that not only are school librarians concerned about their status, rewards, or the effects of digital textbooks, but this intense personal concern might obstruct more substantive concerns about digital textbooks (George et al., 2013). The deeper discussion about Florida school librarians’ SoC is provided in section 5.2.

![Figure 1. The Stages of Concern Profile with School Librarians in Florida](image-url)
4.3.2 Research Question 1.2

RQ2 was “Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ experience in years?” It asked about the relationship between their stages of concern regarding digital textbooks and their teaching experience. As section 3.4.3.3.1 describes, a total of 209 participants completed the surveys. While three participants replied “N/A”, 206 school librarians answered the question about their teaching experience, with an average number of years of 11.1. Both the mode and median were 8.0 years. The demographic information consists of five categories: less than 4 years (n=51, 24.8%), 4–7 years (n=37, 18.0%), 7–10 years (n=33, 16.0%), 10–15 years (n=21, 10.2%), and more than 15 years (n=64, 31.1%).

Figure 2 depicts school librarians’ SoC according to their teaching experience: overall, librarians who had more experience expressed less intensive concerns about digital textbooks over the stages, while new teachers expressed more concerns over the stages. Interestingly, however, the group of least experienced school librarians and the middle level teachers (10-15 years of experience) expressed more concerns than the most experienced group. School librarians with fewer than four years of experience demonstrated the most intensive concerns in Stage 1, Informational (80%), Stage 2, Personal (83%), Stage 3, Management (52%), Stage 5, Collaboration (55%), and Stage 6, Refocusing (38%). In addition, school librarians with 10–15 years of experience showed the most intensive concerns in Stage 2, Personal (83%), Stage 3, Management (52%), Stage 4, Consequence (30%), and Stage 6, Refocusing (38%).

The results found that the profile pattern in case of digital textbooks is not exactly equivalent with Fuller’s findings, who argues that teachers’ concerns follow the trend from unrelated, self, task and impact concerns as they have more teaching experience (Fuller, 1969).
According to Fuller’s theory, school librarians who have the most work experience are supposed to have less intense concerns at the lower stages and more intense concerns at the higher stages. The results, however, show the least experienced group and middle level group of school librarians focusing more on digital textbook initiatives.

The differences between the new and experienced school librarians are more pronounced in Stage 5, Collaboration (19%) and Stage 2, Personal (13%). In those stages, the novice group expressed the greatest intensity of concerns, while the most experienced group expressed the least. These differences imply that new school librarians are much more concerned about their roles, the reward structure (Stage 2, Personal), and how to coordinate and cooperate with their colleagues to integrate digital textbooks (Stage 5, Collaboration).

Figure 2. The Stages of Concern Profile with School Librarians in Florida According to Their Teaching Experiences
4.3.3 Research Question 1.3

RQ 1.3 was “Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ technology adoption style?” It explores the relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ styles of adopting technology. As mentioned in section 3.4.4.3, according to Rogers Diffusion of Innovations theory (DOI) (Rogers, 1983), this survey categorizes school librarians within five “adopter” groups: innovators (the first to adopt, n=19, 9.1%), early adopters (the ones to adopt innovation before most other people do, n=49, 23.4%), early majority (the careful ones who adopt innovation after seeing it used successfully, n=89, 42.6%), late majority (the skeptical and traditional, n=32, 15.3%), and laggards (the last to adopt, n=20, 9.6%).

The group with the highest intensity of concern in each stage was the late majority in Stage 0 (96%), laggards in Stages 1 thorough 3 (80%, 80%, and 52%, respectively) and Stage 6 (38%), and innovators in Stages 4 through 6 (27%, 68%, and 38%, respectively). Figure 3 clearly demonstrates that the more quickly school librarians adopt innovations, the more intensive their concerns during the Impact stages (Stages 4, 5, and 6). It also shows that school librarians who were prudent and skeptical about the innovation were more concerned during the Self and Task stages, Stages 0 through 3. Innovators had uniquely high concerns in Stage 5, Collaboration. The innovators’ intensity (68%) was 40% more than the late majority’s (28%). This implies that innovator school librarians focus on working with other teachers in using digital textbooks, and are more likely to work as administrators, coordinators, or team leaders (George et al., 2013, p.54).
Figure 3. The Stages of Concern Profile with School Librarians in Florida According to Their Innovation Adoption Style

4.3.4 Research Question 1.4

RQ1.4 was “Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ personal experiences with e-books?” It examines the relationship between school librarians’ stages of concern regarding digital textbooks and their personal experiences with e-books. The researcher investigated such personal experiences with two survey questions asking about the length and frequency that participants read/use electronic or digital books per week. For length, 206 school librarians (excepting the
three participants who wrote “N/A”) replied that they read/used e-books an average of 5.1 hours per week, with both the mode and median hours at 3.0. The researcher categorized length within the following four categories: less than one hour per week (n=48, 23.3%), more than one hour but less than three hours per week (n=52, 25.2%), more than three hours but less than seven hours per week (n=50, 24.3%) and more than seven hours per week (n=56, 27.2%).

Figure 4 shows that school librarians who used electronic or digital books more often had more intensive concerns in the Impact stages (Stages 4, Consequence, 5, Collaboration, and 6, Refocusing, while those who used them less had more intensive concerns in the Self stages (Stages 0, Unconcerned, 1, Informational, and 2, Personal). Along with Figures 2 and 3, Figure 4-1 also indicates that Stage 5, Collaboration, had the biggest gap between heavy and light electronic book users (19%). Although Figure 4 demonstrates the differences among categories, the gaps among these categories were narrower than in Figures 2 and 3. This hints that, regardless of the reading duration, school librarians demonstrate very similar patterns of concerns.

As the second factor for investigating the relationship between school librarians’ Stage of Concern and their experience with e-books, the researcher examined their SoC with their frequency of using e-books. This survey question contained five categories to choose from: daily or almost every day (n=59, 28.2%), a few times a week (n=46, 22.0%), a few times a month (n=37, 17.7%), less often (n=46, 22.0%), and not at all (n=21, 10.0%). Excepting that there were fewer participants who did not read e-books, participants were evenly distributed across the categories.
Figure 4. The Stages of Concern Profile with School Librarians in Florida According to Their E-Book Reading Time

In a macro view, Figure 5 indicates that school librarians who read e-books frequently had more intensive concerns over the stages. In a micro view, however, an exceptional phenomenon occurs: for most stages, the second most frequent group “a few times a week” were the most concerned about digital textbooks in Stage 1, Informational (75%), Stage 2, Personal (80%), Stage 3, Management (56%), Stage 4, Consequence (27%), and Stage 6,
Refocusing (38%), rather than daily users. The most intensive gap between the “few times a week” group (56%) and the “less often” group appears in Stage 3, Management (39%), with a gap of 17%. The one notable point for the “daily or almost every day” group was the intensity of Stage 5, Collaboration (59%), which was almost double than “less often” and “not at all” (31%).

Figure 5. The Stages of Concern Profile with School Librarians in Florida According to Their E-Book Reading Frequency

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4.3.5 Research Question 1.5

RQ 1.5 asked “Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians?” It pertained to the relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians. 202 school librarians responded to the question about training time, while seven participants wrote “Not available.” Among the 202 participants, 161 participants indicated their number of hours, with an average training session time of 10.4 hours, a mode of 0, and a median of 5. The remaining 41 participants claimed that they have been educated for over a year, and were thus included in the “more than 12 hours” group. Four categories were developed based on the survey replied: less than one hour (n=32, 15.8%), more than one hour but less than five hours (n=47, 23.3%), more than five hours but less than 12 hours (n=45, 22.3%), and more than 12 hours (n=78, 38.6%).

Figure 6 demonstrates that participants claiming “more than 12 hours” showed higher intensity in most stages: Stages 1, Informational (72%), Stage 2, Personal (78%), Stage 4, Consequence (27%), Stage 5, Collaboration (52%), and Stage 6, Refocusing (38%). Stages 1 through 3 had very similar intensities among the categories, with gaps between the max and min scores of 3%, 2%, and 9%, respectively. The stage that showed the biggest gap was Stage 5, Collaboration, while the group with the least training experience demonstrated notably lower intensive concerns (36%) in the Collaboration stage. Two groups, “more than 12 hours” and “5-12 hours” expressed 52% of intensity, while “less than 1 hour” group expressed 36% of intensity. It can be interpreted that these two high-concerned groups have more possibilities to be leaders in digital textbook integration.
Figure 6. The Stages of Concern Profile with School Librarians in Florida According to the Training Session
4.4 Data Analysis for Research Question 2

The second main research question pertained to South Korean school librarians’ SoC regarding digital textbooks. It asked “Based on the SoC, what are the school librarians’ stages of concern around the implementation of digital textbooks in South Korea?” Similar to research question 1, question 2 consists of five sub-questions: the highest stages, relationships between stages of concern and teaching experience, adoption style, personal experience with e-books, and training sessions. The following sections describe the survey’s results from the 259 South Korean school librarians.

4.4.1 Research Question 2.1

RQ 2.1 asked "Based on the SoCQ, what are the school librarians’ highest stages of concern surrounding the implementation of digital textbooks?" The first sub-question identifies the peak stage of concerns for South Korean school librarians, as illustrated in Figure 7. The intensity of each stage was 99% in Stage 0, Unconcerned, 88% in Stage 1, Informational, 83% in Stage 2, Personal, 77% in Stage 3, Management, 33% in Stage 4, Consequence, 55% in Stage 5, Collaboration, and 57% in Stage 6, Refocusing. All stages demonstrated a higher intensity than with Florida school librarians. Except for Stage 4, Consequence, the peak stage is Stage 0, Unconcerned (99%), indicating that, similar to Florida school librarians, Korean school librarians have little concern about digital textbooks and were not yet involved with the transition (George et al., 2013). In other words, other innovations or activities attract school librarians’ concerns now over digital textbooks.

Figure 7 indicates that school librarians had higher percentiles in Stage 0, Unconcerned; Stage 1, Informational; and Stage 2, Personal. This signifies a typical non-user profile, which shows more intensity during the Self stages (Stage 0, Unconcerned; Stage 1, Informational; and
Stage 2, Personal) (Hall & Hord, 1987). For non-users, the intensity at Stage 0, Unconcerned, is not as important as the variations in Stages 1, Informational and 2, Personal (George et al., 2013), meaning that school librarians focused more on learning about digital textbooks and were concerned about their personal roles while they were occupied simultaneously with other innovations.

Korean school librarians also expressed relatively significant concerns during Management, Stage 3. The last notable pattern is a slightly tailing-up pattern in Stage 6, Refocusing, which implies that participants might be resistant to digital textbooks. A detailed discussion and interpretation is provided in section 5.3.

Figure 7. The Stages of Concern Profile with School Librarians in South Korea
4.4.2 Research Question 2.2

RQ 2.2 was "Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ experience in years?" The second research question asked about the relationship between school librarians’ stages of concern regarding digital textbooks and their years of teaching experience. 259 school librarians have worked for an average of 7.5 years, with a mode of 5 years and a median of 7 years. Participants were evenly distributed across the categories: 55 in “less than 4 years” (21.2%), 61 in “4–7 years” (23.6%), 72 in “7–10 years” (27.8%), 58 in “10–15 years” (22.4%), and 13 in “more than 15 years” (5.0%).

Overall, the more experience school librarians had, the lower their intensity of concern. School librarians with more experience demonstrated a lower intensity of concern across all stages, while new teachers demonstrated higher concerns. One thing to note was, while experienced school librarians in Florida expressed lower concerns in the Self and Management stages, those in South Korea had lower concerns across every stage. On the other hand, new school librarians had the highest intensity in all stages except for Stage 3, Management (7–10 years): Stage 0, Unconcerned (99%), Stage 1, Informational (96%), Stage 2, Personal (94%), Stage 4, Consequence (59%), Stage 5, Collaboration (76%), and Stage 6, Refocusing (73%). This implies that they were very eager for, and looking forward to, the innovation. The stage that showed the biggest gap between the highest and lowest intensity was Stage 5, Collaboration with a 21% gap. While the groups “less than 4 years” and “4–7 years” expressed 76% intensity, the group “more than 15 years” expressed only 30% intensity.
4.4.3 Research Question 2.3

RQ 2.3 asked "Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ technology adoption style?" The third research question aimed to find out the relationship between school librarians’ stages of concern regarding digital textbooks and their style for adapting technology, as described in section 3.4.4.3. The survey categorized school librarians in five categories of adopters: innovators (the first to adopt, n=4, 1.5%), early adopters (the early ones who adopt innovation before most other
people do, n=27, 10.4%), early majority (the careful ones who adopt innovation after seeing it used successfully, n=172, 66.4%), late majority (the skeptical and traditional, n=35, 13.5%), and laggards (the last to adopt, n=21, 8.1).

As Figure 9 portrays, school librarians who adopt technology quickly show more intense concerns over the stages. The early adopter group, however, had more concerns than the innovator group throughout every stage except Stage 6, Refocusing (innovators at 92% and early adopters at 87%).

![Figure 9. The Stages of Concern Profile with School Librarians in South Korea According to Their Innovation Adoption Style](image-url)
Bigger gaps appear on Impact concerns, particularly Stage 4, Consequence; while the innovator and early adopter groups show 76% intensity, the late majority and laggards groups show only 30%. Participants who adopt innovations quickly are thus more concerned about the impact of digital textbooks on students. Also, Stage 5, Collaboration (44%) and 6, Refocusing (35%), displayed bigger gaps between school librarians who adopt innovation either quickly and slowly, implying that school librarians who adopt innovations rapidly are interested in coordination and cooperation with other teachers to explore more benefits regarding digital textbooks.

4.4.4 Research Question 2.4

RQ 2.4 was "Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and those teachers’ personal experiences with e-books?" The fourth research question sought to find out the relationship between school librarians’ stages of concern regarding digital textbooks and their personal experiences with e-books. The first factor, how long participants used electronic or digital books, placed participants in one of four categories: less than one hour per week (n=151, 58.3%), more than one hour but less than three hours per week (n=81, 31.3%), more than three hours but less than seven hours per week (n=16, 6.2%), and more than seven hours per week (n=11, 4.2%).

Overall, the longer users of electronic or digital books expressed higher intensity of concerns across all stages, while shorter users of e-books expressed lower intensity of concerns. Except for Stages 3 and 5, those who used e-books more than three hours but less than seven hours per week had the most intense concerns: Stage 1, Informational (99%), Stage 2, Personal (96%), Stage 4, Consequence (76%), and Stage 6, Refocusing (87%). In this data, the biggest difference between intensity of concerns appears in Stage 4, Consequence (33%). While the
group who used e-books less than one hour per week only had 43% intensity, those who used e-books between three and seven hours expressed 76%.

Figure 10. The Stages of Concern Profile with School Librarians in South Korea According to Their E-Book Reading Time

The second factor for identifying school librarians’ personal experiences with e-books was the frequency with which they used electronic or digital books. For this, the survey question contained five options: daily or almost every day (n=10, 3.9%), a few times a week (n=19, 7.3%), a few times a month (n=21, 8.1%), less often (n=98, 37.8%), and not at all (n=111, 37.8%).
42.9%). Unlike participants in Florida, where most participants read e-books, almost half of participants (42.9%) in South Korea did not.

Without exception, “daily or almost every day” users expressed the most intense concerns over the stages: Stage 0, Unconcerned (99%), Stage 1, Informational (99%), Stage 3, Management (94%), Stage 4, Consequence (82%), Stage 5, Collaboration (93%), and Stage 6, Refocusing (90%). As Figure 11 depicts, the bigger gaps appear in Impact concerns in the same way as in Figure 11, the biggest gap appearing in Stage 4, Consequence (44%). Whereas “daily or almost every day” users had 82% intensity in Stage 4, Consequence, non-e-book users only had 38% intensity. In addition, Stage 5, Collaboration (34%), and Stage 6, Refocusing (30%), expressed relatively large differences.

![Figure 11. The Stages of Concern Profile with School Librarians in South Korea According to Their E-Book Reading Frequency](image-url)
4.4.5 Research Question 2.5

RQ 2.5 was "Is there a significant relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians?" The last research question demonstrates the relationship between school librarians’ stages of concern regarding digital textbooks and the training sessions provided for those librarians. Participants in the survey took training sessions for an average of 1.5 hours, with a mode and median of 0. Four categories appear for training sessions based on the replies: less than one hour (n=226, 87.3%), more than one hour but less than five hours (n=20, 7.7%), more than five hours but less than 12 hours (n=2, 0.8%), and more than 12 hours (n=11, 4.2%).

On the whole, the school librarians with more training showed higher intensity of concerns. Interestingly, however, the group with more than five hours but less than 12 hours expressed the highest concern in Stage 2, Personal (96%), Stage 4, Consequence (76%), and Stage 5, Collaboration (93%) over the group with the longest training time. The stages of concern profile demonstrated the biggest gap in Task concerns during Stage 3, Management (28%). This indicates that school librarians with more than five hours but less than 12 hours training experience have fewer concerns about managing digital textbooks (George et al., 2013), and are rather concerned about the consequences of students using digital textbooks (Stage 4, Consequence). Such school librarians expressed a desire to learn from what other teachers know and are doing (high Stage 1, Informational, and high Stage 5, Collaboration). In Stage 3, the group that expressed the highest concern was “more than 12 hours” group with 97%.
Figure 12. The Stages of Concern Profile with School Librarians in South Korea According to the Training Session
4.5 Data Analysis for Research Question 3

Research Question 3 asked "Are there significant statistical differences in the stages of concern identified for school librarians in Florida and South Korea?" The last research question asks whether there are significant statistical differences between the SoC profiles identified for school librarians in Florida and South Korea. To answer this question, two sub-research questions were developed: (1) identifying the differences between the highest and second highest stages of concern for school librarians in Florida and South Korea; and (2) determining the main factors influencing those differences.

The researcher applied a Paired difference test (t-test) statistical analysis by comparing the raw scores of each stage in the two settings. The t-test determined if there was a statistical significance in the means between dependent variables (school librarians’ highest and second highest stages of concern) and the independent variable (location, i.e. Florida and South Korea).

4.5.1 Research Question 3.1

Based on RQ 3.1, "What are the differences between the highest and second highest stages of concern for school librarians in Florida and South Korea?", Figure 11 compares the two stages of concern profiles in Florida and South Korea, revealing that Stage 0, Unconcerned, was the highest intensity stage for both locations, while Stage 4, Consequence was the lowest intensity stage. Figure 13 also indicates that the second highest stages for Florida and South Korea were Stages 2, Personal, and 1, Informational, respectively. Since this study focuses more on the highest and second highest stages for each region, the researcher examined the similarities and differences between Stages 0, Unconcerned; 1, Informational and 2, Personal to test research question 3.1.
Figure 13. The Comparison between the SoC Profiles in Florida and South Korea

As the first step of the statistical analysis, the means and standard deviations for the dependent variables are compared. The detailed values were recorded and the table were established below in Table 5.
Table 5. *Descriptive Statistics Disaggregated by Two Locations*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Florida</th>
<th></th>
<th>South Korea</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Stage 0, Unconcerned,</td>
<td>16.37</td>
<td>5.99</td>
<td>22.48</td>
<td>6.22</td>
</tr>
<tr>
<td>Stage 1, Informational</td>
<td>19.67</td>
<td>6.86</td>
<td>24.25</td>
<td>7.46</td>
</tr>
<tr>
<td>Stage 2, Personal</td>
<td>21.21</td>
<td>8.78</td>
<td>24.47</td>
<td>7.79</td>
</tr>
<tr>
<td>Stage 3, Management</td>
<td>12.78</td>
<td>7.05</td>
<td>19.89</td>
<td>7.34</td>
</tr>
<tr>
<td>Stage 4, Consequence</td>
<td>17.22</td>
<td>8.06</td>
<td>21.29</td>
<td>7.92</td>
</tr>
<tr>
<td>Stage 5, Collaboration</td>
<td>19.37</td>
<td>9.19</td>
<td>21.82</td>
<td>8.42</td>
</tr>
<tr>
<td>Stage 6, Refocusing</td>
<td>12.40</td>
<td>7.00</td>
<td>17.74</td>
<td>7.98</td>
</tr>
</tbody>
</table>

Notes. M=Mean; SD=Standard Deviation.

Because no extreme outliers were observed, no data were omitted. Among the seven stages that Table 5 details, the researcher compared the mean scores in Florida and South Korea according to each stage. The results from t-tests are introduced in Table 6, below.

Table 6. *Descriptive Data in Florida and South Korea and T-test Comparisons by Locations*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Place</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 0, Unconcerned,</td>
<td>Florida</td>
<td>209</td>
<td>16.37</td>
<td>5.99</td>
<td>-10.782</td>
<td>451.86</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>22.48</td>
<td>6.22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1, Informational</td>
<td>Florida</td>
<td>209</td>
<td>19.67</td>
<td>6.86</td>
<td>-6.90</td>
<td>458.03</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>24.25</td>
<td>7.46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2, Personal</td>
<td>Florida</td>
<td>209</td>
<td>21.21</td>
<td>8.78</td>
<td>-4.20</td>
<td>419.73</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>24.47</td>
<td>7.79</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes. n=number of sample; M=Mean; SD=Standard Deviation.
Table 6 demonstrates a significant difference in school librarians’ SoC scores in Stage 0, Unconcerned, between the two locations: Florida (M=16.37, SD=5.99) and South Korea (M=22.48, SD=6.22); t(451.86)= -10.782, p = 0.00. This suggests that school librarians in South Korea are more preoccupied with other activities or educational innovations over digital textbooks.

For Stage 1, Informational, a large statistic results in a small probability [t(458.03)=-6.90, p = 0.00], indicating that the means in Florida (M=19.67, SD=6.86) and South Korea (M=24.25, SD=7.46) are significantly different from one other. In other words, school librarians in South Korea were more eager to learn about digital textbooks and desired more relevant information about their implementation.

In addition, the results report that the means of Stage 2, Personal, significantly differ from one other as well: [t(419.73)=-4.20, p = 0.00] in Florida (M=21.21, SD=8.78) and South Korea (M=24.47, SD=7.79), implying that school librarians in South Korea were genuinely curious about their roles in integrating digital textbooks and the impact it would have upon them.

Detailed analyses on which factors created these differences are provided in section 4.4.2, which compares each survey question item.

4.5.2 Research Question 3.2

RQ 3.2 sought to identify the main factors that create significant differences between school librarians in Florida and South Korea. In order to scrutinize the strongest and second strongest intensity of school librarians’ concerns among the seven stages, the researcher chose the peak and second peak stages to analyze.

Table 7 indicates that all survey questions consisting of Stage 0, Unconcerned (Questions 3, 12, 21, 23, and 30), significantly differed on the peak stage between the two locations.
Although school librarians in both locations expressed a high intensity of concerns in Stage 0, Unconcerned, there was a significant difference between them in Stage 0. Throughout the questions consisting of Stage 0, South Korean school librarians showed more intensity.

When compared to school librarians in Florida, South Korean school librarians were not concerned about digital textbooks [(Q12), t(464.78)=-4.07, p = 0.00], due to concern for another innovation [(Q3), t(454.73)=-12.13, p = 0.00], or items other than digital textbooks [(Q21), t(388.65)=-6.18, p = 0.00]. These other priorities thus prevent South Korean school librarians from focusing on digital textbooks [(Q30), t(395.97)=-4.30, p = 0.00]. South Korean school librarians also argued that they did not have time for digital textbooks [(Q23), t(429.20)=-6.16, p = 0.00].

Table 7. Descriptive Data in Florida and South Korea and T-test Comparisons Related to Stage 0, Unconcerned

<table>
<thead>
<tr>
<th>Variable</th>
<th>Location</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3. I am more concerned about another innovation.</td>
<td>Florida</td>
<td>209</td>
<td>1.92</td>
<td>1.83</td>
<td>-12.13</td>
<td>454.73</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.04</td>
<td>1.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q12. I am not concerned about digital textbooks at this time.</td>
<td>Florida</td>
<td>209</td>
<td>2.21</td>
<td>1.84</td>
<td>-4.07</td>
<td>464.78</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>2.96</td>
<td>2.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q21. I am preoccupied with things other than digital textbooks</td>
<td>Florida</td>
<td>209</td>
<td>4.45</td>
<td>2.16</td>
<td>-6.18</td>
<td>388.65</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>5.58</td>
<td>1.69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q23. I spend little time thinking about digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>3.61</td>
<td>2.22</td>
<td>-6.16</td>
<td>429.20</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.84</td>
<td>2.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q30. Currently, other priorities prevent me from focusing my attention on digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>4.19</td>
<td>2.38</td>
<td>-4.30</td>
<td>395.97</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>5.06</td>
<td>1.92</td>
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</tbody>
</table>
For South Korean school librarians’ SoC. Stage 1, Informational, is the second highest. As Table 8 indicates, there is a statistically significant difference between Florida and South Korea in Stage 1. Table 8 shows that, among the five question items consisting of Stage 1, only three questions were significantly different: although both groups have higher concerns in Stage 1, Informational, school librarians in South Korea indicated that they have a more general awareness and interest in learning about digital textbooks than Florida school librarians (George et al., 2013). This statistical difference is due to South Korean school librarians’ limited knowledge [(Q6), t(454.89)= -5.97, p = 0.00]; their eagerness to discuss the possibility of using digital textbooks [(Q14), t(431.76)= -6.27, p = 0.00]; and their desire to know how digital textbooks are better than the paper textbooks [(Q35), t(365.33)= -8.31, p = 0.00].

Table 8. Descriptive Data in Florida and South Korea and T-test Comparisons Related to Stage 1, Informational

<table>
<thead>
<tr>
<th>Variable</th>
<th>Location</th>
<th>n</th>
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<th>SD</th>
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<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q6. I have a very limited knowledge of digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>3.10</td>
<td>2.00</td>
<td>-5.97</td>
<td>454.89</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.24</td>
<td>2.12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q14. I would like to discuss the possibility of using digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>3.22</td>
<td>2.17</td>
<td>-6.27</td>
<td>431.76</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.44</td>
<td>2.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q15. I would like to know what resources are available when we decide to adopt digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>4.86</td>
<td>2.07</td>
<td>-1.35</td>
<td>427.21</td>
<td>0.18</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>5.11</td>
<td>1.90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q26. I would like to know what the use of digital textbooks will require in the immediate future.</td>
<td>Florida</td>
<td>209</td>
<td>4.64</td>
<td>2.05</td>
<td>-1.80</td>
<td>417.92</td>
<td>0.72</td>
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<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.96</td>
<td>1.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q35. I would like to know how digital textbooks is better than what we have now.</td>
<td>Florida</td>
<td>209</td>
<td>3.86</td>
<td>2.39</td>
<td>-8.31</td>
<td>365.33</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>5.49</td>
<td>1.71</td>
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</table>
The researcher also examined the details of Stage 2, Personal, the second peak stage for Florida school librarians’ SoC. As Table 9 indicates, there is a statistical difference between the two locations in this stage. Among the five survey items for Stage 2, Personal, three items' mean scores are significantly different from those in the other region: South Korean school librarians expressed much more intensity of concerns in Stage 2, Personal, because of their concern about the changes in their professional status, [(Q7), \( t(399.44) = -5.48, p = 0.00 \)], changes in teaching \( (Q17), t(403.42) = -5.35, p = 0.00 \], and changes in their roles \( (Q33), t(401.41) = -4.22, p = 0.00 \], rather than decision-making \( (Q13) \) or time and energy commitments \( (Q28) \).

Table 9. Descriptive Data in Florida and South Korea and T-test Comparisons Related to Stage 2, Personal

<table>
<thead>
<tr>
<th>Variable</th>
<th>Location</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q7. I would like to know the effect of reorganization on my professional status.</td>
<td>Florida</td>
<td>209</td>
<td>3.81</td>
<td>2.37</td>
<td>-5.48</td>
<td>399.44</td>
<td>0.00*</td>
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<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.92</td>
<td>1.94</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q13. I would like to know who will make the decisions in the new system.</td>
<td>Florida</td>
<td>209</td>
<td>4.63</td>
<td>2.20</td>
<td>-0.33</td>
<td>425.54</td>
<td>0.74</td>
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<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.69</td>
<td>2.00</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Q17. I would like to know how my teaching or administration is supposed to change.</td>
<td>Florida</td>
<td>209</td>
<td>4.07</td>
<td>2.21</td>
<td>-5.35</td>
<td>403.42</td>
<td>0.00*</td>
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<td></td>
<td>South Korea</td>
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<td>5.09</td>
<td>1.84</td>
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</tr>
<tr>
<td>Q28. I would like to have more information on time and energy commitments required by digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>4.37</td>
<td>2.20</td>
<td>-1.38</td>
<td>419.23</td>
<td>0.17</td>
</tr>
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<td></td>
<td>South Korea</td>
<td>259</td>
<td>4.64</td>
<td>1.95</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q33. I would like to know how my role will change when I am using digital textbooks.</td>
<td>Florida</td>
<td>209</td>
<td>4.33</td>
<td>2.20</td>
<td>-4.22</td>
<td>401.41</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>South Korea</td>
<td>259</td>
<td>5.13</td>
<td>1.81</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.6 Summary

The findings of this study confirm that school librarians in both Florida and South Korea express relatively high concerns about digital textbooks as an educational innovation. Florida school librarians’ SoC represents ‘Negative One-Two Split’ user patterns, which has a higher percentile in Stage 2, Personal, than Stage 1, Informational, the highest percentile occurring at Stage 0, Unconcerned. This implies a resistance to digital textbooks as an innovation. Stage 0 also reveals that school librarians are more occupied with other activities or tasks. The researcher examined the four factors in determining the relationship between SoC and school librarians’ characteristics, and all SoC profiles created in this study had the highest intensity of concern in Stage 0. All profiles presented a relationship between SoC and participants’ characteristics, with the biggest gaps occurring in Stage 5, Collaboration: participants’ teaching experience (19% gap = ‘Less than 4 years’ (55%) – ‘More than 15 years’ (36%)), teachers’ technology adoption style (40% gap= ‘Innovator’ (68%) – ‘Late majority’ (28%)), length of reading electronic or digital books (19% gap= ‘More than 7hrs/ wk’ (55%) – ‘Less than 1 hr & 1~3 hrs/wk’ (36%)) and frequency of reading electronic or digital books (28% gap = ‘Daily or almost every day’ (59%) – ‘Less often & Not read e-books’ (31%)).

South Korean school librarians’ SoC profile, on the other hand, represented a typical non-user profile, which has more intensity in the Self stages: Stage 0, Unconcerned; Stage 1, Informational; and Stage 2, Personal. All SoC profiles had the most intense concerns in Stage 0, Unconcerned, implying participants’ concern towards other innovations, issues, or activities. South Korean school librarians’ SoC profiles, in comparison to those in Florida, revealed the largest gaps in the Impact stages. SoC profiles according to South Korean school librarians’ personal experiences show the biggest gaps in Stage 4, Consequence: how long the participants
use electronic or digital books (34% gap= ‘Between three and seven hours’ (82%) – ‘Less than one hour per week’ (48%)) as well as how often participants used electronic or digital books (43% gap= ‘Daily or almost every day users’ (86%) – ‘Non-e-book users’ (43%)). The profile pertaining to South Korean school librarians’ years of experience shows the biggest gap in Stage 5, Collaboration (21% gap= ‘Less than 4 years’ and ‘4-6 years’ (80%) – ‘More than 15 years’ (59%)). In contrast, Stage 6, Refocusing, shows the biggest gap for teachers’ technology adoption style (49% gap= ‘Innovator’ and ‘Early adopter’ (82%) – ‘Late majority’ and ‘Laggards’ (33%)).

RQ 3 asked about significant statistical differences in the stages of concern between school librarians in Florida and South Korea. To answer this, independent t-tests were applied: since Stage 0, Unconcerned, was the peak stage for both regions, and that Stages 1, Informational, and 2, Personal, were the second peak stages both as well, the researcher tested the mean differences of these stages between Florida and South Korea, revealing that South Korean school librarians expressed more concern over these three stages. To investigate the factors that created such differences, the researcher used a t-test for every survey question item. For Stage 0, Unconcerned, South Korean school librarians’ higher means over the five questions statistically differed from those in Florida in Stage 1, Informational due to South Korean school librarians’ (a) limited knowledge, (b) strong desire to discuss the possibility of using digital textbooks, and (c) desire to know how digital textbooks are better than the paper textbooks. Moreover, stronger concerns about changes to professional status and teaching roles created more intense concerns in Stage 2, Personal, for South Korean school librarians.

Based on the data presented in this chapter, Chapter 5 discusses interpretations, implications, and recommendations by examining the conclusions based on the CBAM and the
literature. In doing so, the researcher suggests interventions for school librarians to improve their leadership roles in implementing digital textbooks.
CHAPTER 5
DISCUSSION AND CONCLUSION

This final chapter discusses meanings of the Stages of Concern (SoC) profiles in two different settings, Florida and South Korea. The research questions are restated and the methodology of the study and results that were found are summarized. Also, the implications and recommendations that can help school librarians enhance their leadership role in digital textbook implementation are presented. Finally, the chapter covers limitations of the study and indications for future research regarding school librarians’ leadership.

5.1 Summary

With rapidly advancing technology, information specialists must meet growing information needs in order to bridge the gap between the new innovations and users (Bronstein & Aharony, 2009; Callahan, 1991). In particular, school librarians’ leadership role in technology integration has been growing (Dotson & Jones, 2011; Everhart, 2007; Everhart et al., 2012; National Board for Professional Teaching Standards, 2012; Powell, 2013a). However, as stated in Chapter 1, despite the growing importance of technology integration leadership and the emergence of professional guidelines and organizations, there have been only a few studies addressing how to actually improve librarians’ leadership. Therefore, this study suggests customized interventions for each group of school librarians based on the stages of concern regarding their leadership development. The research questions ask the peak stage of concern and relationship between school librarians’ stages of concern regarding digital textbooks and their characteristics in Florida and South Korea. Moreover, the last research question compares the similarities and differences between the two places.
To answer the research questions, the researcher applied the Stages of Concern Questionnaire (SoCQ), a part of the Concerns-Based Adoption Model (CBAM). The CBAM both provides a structure for testing research questions and guides the study to reach conclusions about adoption concerns of school librarians (Hall & Hord, 1987; Hollingshead, 2009). The survey questionnaire used for the study is the SoCQ—one of the methods used to assess the stages of concern as interpreted by one-legged conferencing and open-ended concern statements. The SoCQ is widely applied because of its usefulness in helping explain developing patterns for perceived concerns and attitudes that individuals experience. The SoCQ is convenient and simple for a researcher to manipulate and for participants to answer, because it consists of thirty-five items using a seven-point Likert scale. Surveys enable researchers to collect a large amount of data. When employing the survey method in research on the perception of librarians, the researcher had the ability to examine sample individuals’ responses. The researcher could also collect data at relatively low cost and test it relatively quickly.

Over a month-long period from the middle of November through the middle of December in 2014, two surveys were conducted in Florida and South Korea. They obtained 209 and 259 completed responses respectively.

In order to answer the research questions, the researcher created the SoC profiles based on the CBAM theory and found that school librarians had high concerns about digital textbooks. The SoC of Floridia school librarians represents ‘Negative One-Two Split’ user patterns with the peak at Stage 0, Unconcerned. All other profiles containing relationships between school librarians’ stages of concern regarding digital textbooks and their characteristics likewise had the highest concern at Stage 0, Unconcerned. Also, the biggest gaps in all profiles were found on Stage 5, Collaboration. The SoC profile of Korean school librarians, however, presents a typical
non-user profile. Interestingly, when it comes to the SoC profiles pertaining to school librarian characteristics, the biggest gaps appeared over all the Impact concerns.

5.2 Discussion of Florida School Librarians’ SoC Regarding Digital Textbook Adoption

In section 4.2, a sufficient body of results are presented to investigate the first research question. This section provides a closer look at the findings from Florida school librarians to interpret the implications. Specifically, section 4.2 details the overall pattern of the Florida school librarians’ SoC and the potential resistance that the findings suggest, and offers a closer look at the peak stage.

Above all, the overall SoC profile depicts “Negative One-Two Split” user patterns, which have a higher concentration at Stage 2, Personal than Stage 1, Informational. This pattern suggests that participants are doubtful about digital textbooks, and that this hesitance can signify future resistance to an innovation (George et al., 2013; Hord et al., 2006). The theory predicts that when those introducing the innovation do not attempt to reduce the personal concerns of school librarians this blocks them from giving objective consideration about digital textbooks (George et al., 2013).

In addition to the One-Two Split, the researcher could discern one more caution sign to note. Among the various categories pertaining to school librarians’ characteristics, the strongest disparity between the high Stage 2, Personal, and low Stage 1, Informational (11% gap), was discovered in the profile of school librarians with 10-15 years of working experience. While the 10-15 year work experience group had a 72% intensity of concerns in Stage 1, Informational, their strength of concerns in Stage 2, Personal, was 83%. Since more intensive personal concerns (Stage 2) can ruin the evolution of the process of implementing the higher stages, this group of school librarians is likely to refuse to accept the implementation. Hall and Hord (1987) exhort
the immediate resolution. The intervention to solve the expected issues with the intensive Stage 2, Personal, is detailed in section 5.5.

In addition, a profile with a “tailing-up Stage 6, Refocusing”—one that has a higher concern on Stage 6, Refocusing than Stages 4, Consequence and 5, Collaboration—can provide another warning that participants might react negatively to the innovation (George et al., 2013; Hord et al., 2006). At its basic definition, Stage 6, the Refocusing stage, intimates that participants focus on trying other ways to get more benefits from the innovation and devising new ways to use or replace it with a more influential alternative. However, tailing-up Stage 6, Refocusing, means that participants see more merit in other opportunities and are more interested in how to do things differently (George et al., 2013) rather than being immersed in the use of digital textbooks. The more precipitously a profile graph tails up, the more alarm it should raise. In Florida’s profile, two cases displaying tailing-up Stage 6, Refocusing, were detected. The biggest gap occurred in the late majority group, those who are skeptical about adopting an innovation and are fond of tradition. While participants who were included in the late majority group expressed a 28% intensity of concern on Stage 5, Collaboration, they possess a 34% of concern on Stage 6, Refocusing. Moreover, participants who do not read e-books suggest the same potential resistance. Their intensity of concern on Stage 6, Refocusing (34%) was slightly higher than Stage 5, Collaboration (31%). The leaders and policy makers should take note of this potential resistance.

On a closer view of Stage 0, Unconcerned, the findings of the SoC profile correspond with previous studies. Among the five items contained in Stage 0, Question 21, “I am preoccupied with things other than digital textbooks” and Question 30, “Currently, other priorities prevent me from focusing my attention on digital textbooks” had the highest average
answers (M=4.45 and M=4.19 respectively). As several studies point out, one of the main factors which inhibit school librarians’ technology integration is lack of time (Johnston, 2011; Hughes-Hassell and Hanson-Baldauf, 2008; Martin, 2011), and these questions also confirm that the survey subjects were pressed for time. The findings also support Martin’s (2011) assertion that one of the identified barriers for school librarians to demonstrate leadership is other assigned duties. In sum, for the successful implementation of digital textbooks, it is required for school librarians to have more time involved with digital textbooks and the opportunity to plunge deeper into this innovation.

Lastly, the study affirms that participants who have more than 15 years of teaching experience, are innovators, read e-books longer and more often and have more than 15 hours training had lower Unconcerned (Stage 0) scores. This suggests that prior teaching experience and technology use, along with an assertive attitude toward the innovation, are key elements in lowering the scores on Stage 0.

**5.3 Discussion of South Korean School Librarians’ SoC Regarding Digital Textbook Adoption**

The concerns of the Korean school librarians tended to fall within the first three stages, Stages 0, Unconcerned; 1, Informational; and 2, Personal. This section examines the overall pattern of the Korean school librarians’ SoC, including the meaning of highly concerned Stage 1, Informational, and the potential resistance to embracing digital textbooks.

Overall, Korean school librarians expressed high Self concerns in Stages 0, Unconcerned; 1, Informational; and 2, Personal. This mirrors a typical non-user profile, and indicates that school librarians were not fully aware of digital textbooks and were more focused on other responsibilities. However, the high percentages of concern in Stages 1, Informational, and 2,
Personal, also suggest that they are open to digital textbook implementation and need more information about the innovation (George et al., 2013). Moreover, high concerns at Stage 3, Management, imply that the librarians focused on the processes and tasks of using digital textbooks and were interested in the best use of information and resources related to digital textbooks. They were interested in issues about how to improve efficiency, organize jobs, manage times and schedule the implementation. For the whole pattern, the Stage 6, Refocusing tailed down at the end of the curve. This conveys that Korean school librarians did not have an opinion about opportunities that could compete with digital textbooks.

If Stage 0, Unconcerned, is eliminated from consideration in the Korean SoC profile, Stage 1, Informational, is the stage with the highest concern. George et al. (2013, p. 8) describe the high concern on Stage 1, Informational:

The individual indicates a general awareness of the innovation and interest in learning more details about it. The individual does not seem to be worried about himself or herself in relation to the innovation. Any interest is in impersonal, substantive aspects of the innovation such as its general characteristics, effects, and requirements for use.

This result is in accord with Hughes-Hassell and Hanson-Baldauf’s (2008) research, which states that one of the barriers to technology integration was a lack of knowledge about how to use the technology, both personally and instructionally. Since the Stage 1, Informational, score was higher than the Stage 2, Personal, score, it can indicate that Korean school librarians retained “a positive and proactive perspective, with little fear of the personal effects a specified innovation might have” (George et al., 2013, p. 40).

An analysis of the findings determined that the factors stimulating Stage 1, Informational, concerns were having less teaching experience, a faster innovation adoption style, reading e-
books longer and more often and longer training sessions. In particular, the SoC profile of novice school librarians noted those who have the least teaching experience have the greatest need for information about digital textbooks.

In terms of the potential resistance, there was only one group that showed both the one-two split pattern—which was rarely discovered—and tailing-up Stage 6, Refocusing, as well. A group of e-book non-readers has higher intensity of concern at Stage 2, Personal (98%), than Stage 1, Informational (93%). Also, their Stage 6, Refocusing, concern (60%) showed more intensity than Stage 5, Collaboration (59%). When it comes to the digital textbook implementation, the non-readers can be a serious counterforce. For this group, since they do not have any experience or interest in using e-books, an active discussion about the needs for the new type of education innovation and detailed instruction about digital textbooks, are needed, as opposed to relying on one-directed compulsion.

In Korea's case, various groups expressed tailing-up Stage 6, Refocusing, which implies a negative attitude of school librarians toward digital textbooks. Among the four characteristics, the sub-category pertaining to how fast they adopt the innovation was the one that showed the biggest gaps. “Innovators” had an 8% (Stage 5=84% and Stage 6=92%); “late majority” had a 9% gap (Stage 5=48% and Stage 6=57%); and “laggards” had a 13% gap (Stage 5=44% and Stage 6=57%). Participants who had more than 15 years working experience had a 14% gap (Stage 5=55% and Stage 6=69%). In particular, this most experienced group showed the biggest gap among all categories. In terms of working experience, the longer the librarians had been working, the bigger the gap that was noticed. School librarians with 7 to 10 years of working experience had a 5% gap (Stage 5=68% and Stage 6=73%); those with 10 to 15 years working experience showed a 1% gap (Stage 5=68% and Stage 6=69%). Unexpectedly, the most highly-
trained school librarian group demonstrated the tailing-up Stage 6, Refocusing, pattern. The strength of concern at Stage 6, Refocusing, of the group with more than 12 hours training reached 12%, while Stage 5, Collaboration remained at 80%. In addition to these groups, the groups who read e-books for less time and less frequently showed one to three percent gaps.

5.4 Discussion of Educational Culture in Florida and South Korea

In this section, the researcher analyzes the educational systems that influence individual school librarians’ concerns about digital textbook implementation based on the results from Research Question 3. Since the SoCQ is specialized to identify individual perceptions and is a part of understanding the dynamics of school and changes, more consideration to affecting individual concerns is required (Hall, 2013). By describing the school ecology and education culture related to the highest and second highest stages of concern, the study attempts to provide broader perspectives to look at the concerns of individual participants and to address context pertaining to the dissemination of digital textbooks that previous literature revealed.

Research Question 3 discerned the differences between the Florida and South Korea SoC profiles. The differences between the highest and second highest stages of concern were identified and the main factors influencing the differences were determined. Table 10 outlines the results from Research Question 3.

In terms of Stage 0, Unconcerned, school librarians in both settings expressed the highest intensity of concerns. The study confirmed that there was widespread apathy about digital textbooks among the participants. This finding echoes previous research. Hughes-Hassell and Hanson-Baldauf (2008) report the lowest competency in emergent technology tools use. Powell (2013b) concludes that school librarians are less likely to be aware of tasks dealing with collaboration and technology that are not included in their job descriptions.
One of reasons behind school librarians’ indifference, as analyzed by previous research, is that the decisions related to digital textbooks were directed and organized by a governing body via centralized administrative structure (Daft, 1978; Hannon, 2009; Rouse, Hannaway, Goldhaber, & Figlio, 2013; Sánchez, Salinas, & Harris, 2011; Shin, 2010). The studies agree that various top-down projects and initiatives for school reform did occur; the process, though, made
school culture more rigid, and educators were therefore easily unconcerned about the innovation. In particular, Korean school librarians expressed a level of indifference that was statistically significantly higher. As a result, the literature paid particular attention to the imbalance between a bureaucratic, government-led project and autonomic teachers (Park & Jeong, 2013; Sánchez et al., 2011). Since the Korean War, the Korean government has led various educational innovations. This top-down structure incurred not only inflexible curricula and one-sided lectures, but also a very conservative use of information and communications technology (ICT) in classes (Sánchez et al., 2011). However, based upon deep-rooted Confucian tradition, teachers have more autonomy over the courses and they exercise more leverage in deciding the use of educational technologies, regardless of the obligatory nature of school reform (Shin, 2010). This disproportion between a government-driven school reform initiative and teachers’ resistance to the reform has brought a conservative use of ICT and insufficient instructional models (Park & Jeong, 2013; Sánchez et al., 2011). The study repeats this state of tension in digital textbook implementation.

The results verified that school librarians in both locations also have higher concern about Stage 1, the Informational stage. The survey discovered that school librarians were interested in obtaining more information about digital textbooks. Specifically, as Table 8 depicts, school librarians expressed great interest in the available resources in Florida (M=4.86, the highest intensity among five survey items for Stage 1, Informational) and South Korea (M=5.11, the second highest intensity). It may reflect the fact that neither place has prepared any concrete plans for digital textbooks. Furthermore, school librarians in Florida faced challenges when it was decided that each district school board should spend at least 50% of the instructional materials funds to purchase digital or electronic instructional materials beginning in the 2015-
2016 fiscal year (The Florida Senate, 2011). School librarians are responsible for making informational materials available (Florida Statutes, Title XLVIII K-20 Education code, 2012). Changes in collection development without corresponding adjustments to budget would require school librarians to monitor this resource issue.

Kang and Everhart (2014e) find that Florida school librarians’ greatest concerns related to the adoption of digital textbooks are focused on resources - budgeting (20.5%) and infrastructure issues such as Internet access (9.6%), devices (8.9%), and hardware (7.9%). In particular, Florida recommends schools adopt a Bring Your Own Device (BYOD) policy to meet the 1:1 goal (Florida's Digital Instructional Materials Work Group, 2013) but has not provided a solution for students who cannot afford devices. It seems logical that each school district should support students from low-income families, but this presents an equity issue such as in Miami-Dade county public schools. Noted in their digital classrooms plan (Miami-Dade County, 2014) is that only 14-25% of families are likely to participate in BYOD programs. For a successful introduction of digital textbooks, equity issues need to be addressed and improved.

On the other hand, Korean school librarians have unique anxiety about resources, since the Korean government has provided the necessary resources to push for innovative ICT practices, and some private companies are collaborating with research organizations to expand educational hardware and software (Sánchez et al., 2011). This one-way adoption would exclude school librarians from the discussion about the use of digital textbooks and the process to develop collections. Again, it is possible for this absence of conversation to bring more eagerness to discuss the possibility of using digital textbooks and an increase in the desire to know how digital textbooks are better than the existing resources.
In terms of Stage 2, Personal, concern, school librarians in both locations expressed a high level of concern. As mentioned above in section 2.2.1, the altered role of school librarians has yet to be agreed upon. However, the environment that school librarians have encountered in school libraries is not currently amenable to e-books, which can be an initial model of digital textbook service. *Library Journal, and School Library Journal* (2014) conducted a survey of 1,271 school librarians which indicated that only 66% of library media centers nationwide provide e-books to students and faculty. Also, the collection size for e-books remains fairly low; there are an average of 189 digital titles per school library while the median number of print books is 11,300. The small collection size is not the only hindering factor; the lack of e-readers is another obstacle for e-book service. Still, the top method by which students utilized the e-book collection was “school desktop computers,” selected by 68% of respondents.

In South Korea, no statistics can be found in regards to the relationship between school libraries and e-book services when the libraries are providing e-book service through the local Ministry of Education (D. Lee, personal communication, July 3, 2013). Distinctly, the rate of concern that Korean school librarians expressed on the Personal stage is statistically significantly higher than those in Florida. One of the various reasons that Korean school librarians are worried about their roles is the complicated position structure and job insecurity. Although school librarians’ job security in Florida has been lowered, there is only one level of school librarian position and the path to achieving the position is very clear. In the U.S., one needs certification earned from the state’s board of education to be a school librarian. According to Florida Statutes (2012), in chapter 1012.55 “Positions for Which Certificates Required,” the Statutes clarify that library media specialists in Florida should “hold the certificate required by law and by rules of the State Board of Education in fulfilling the requirements of the law for the
type of service rendered” (para. 1). However, in Korea, the School Library Promotion Act, by the Ministry of Education (2008), identifies three kinds of school librarians in its Article 2 in Section 4, 5 and 6. The certification processes vary according to the position.

4. The term "library teacher" means a person who is in charge of the affairs of a school library with a library teacher certificate under Article 21 of the Elementary and Secondary Education Act;

5. The term "practical education teacher" means a person who is in charge of the affairs in a school library with a certificate of practical education teacher after the completion of library and information science or library science under Article 21 of the Elementary and Secondary Education Act;

6. The term "librarian staff" means a person who works in a school library with the qualifications under Article 6, Paragraph 2 of the Library Act (para. 2).

According to the law, only a “library teacher” has an educational background and a school library degree. This becomes critical because the School Library Promotion Act allows schools to hire practical education teachers or librarian staff instead of library teachers. Practical education teachers and librarian staff do not need to have an educational background, and most of them are part-time employees. More seriously, the total number of these three kinds of staff working in schools does not reach even half of the country’s libraries (Ministry of Education, 2013).

In conclusion, this section includes some aspects of school culture that affect school librarians’ concern. In order to address human resource issues pertaining to the diffusion of digital textbooks and to provide timely support and appropriate assistance to facilitate the adoption of digital textbooks, this study analyzes the similarities and differences of culture and
educational background that influence individual school librarians’ concerns about digital textbook implementation. Not only various similarities, such as the textbook reforms and their roles, top-down innovation or continuous attempts to improve students' achievement, but also the differences, such as school librarians’ roles, use of e-books, purpose of digital textbook implementation or teacher resistance provide an opportunity to closely look at school librarians’ concern. For successful implementation of digital textbooks, it is worth noting Waldron and McLeskey’s (2010) assertion. They argue that collaborative cultures are required, and distributed leadership is indispensable in order to overcome the culture where teachers typically work in isolation utilizing traditional professional development, which has been shown to be ineffective.

5.5 Interventions for School Librarians in Florida and South Korea

This study aims to identify the most efficient way for school librarians to be leaders in integrating digital textbooks in their schools. A simple assessment of their personal concerns, however, is insufficient for providing practical plans of action (Hall & Hord, 1987). CBAM researchers therefore developed incident intervention, “an action or event or a set of actions or events that influences use of the innovation” (Hall & Hord, 1987, p.143). This series of events comes in various shapes and sizes, the key criteria for which are 1) the presence of action(s) or event(s) and 2) an observable effect (or potential for an effect) from using the innovation (Hall, 1979, p.31).

To provide practical advice for school librarians implementing digital textbooks, therefore, this section introduces interventions used by CBAM theorists, integrating various events, which can in turn become interventions for school librarians. To offer comprehensive suggestions, the researcher integrated at the end of the section professional development ideas from previous research that have dealt with support strategies for school librarians.
Hall and Hord (1987) offer example interventions for each stage of concern. For Stage 0, Unconcerned, the authors emphasize the requirement of expressing little concern about innovation. Events that link the innovation to teachers’ significant areas of interest are very important—sharing information to increase school librarians’ interest and encouraging individuals to talk about the innovation with others are helpful in particular. In this study, school librarians in Florida and South Korea expressed highest concerns during Stage 0. It is therefore critical to provide them the opportunity to converse and exchange information about digital textbooks.

For school librarians who were highly unconcerned, interventions, including “involving teachers in discussions and decisions, sharing information to arouse interest and taking steps to minimize gossip and inaccurate information,” can be provided (Hord et al., 1987, p. 44). For example, information-exchange strategies, such as daily conversation, guest speakers, brochures, periodicals, one-on-one conversations, and vendor presentations, can arouse interest for digital textbooks. As professional development methods this study recommends attending college/graduate school, participating in conferences, school visits, short media presentations, and workshops. Administrators can help school librarians to develop supportive organizational arrangements, broadcast information/materials, and provide consultations so as to reinforce administrator advocacy and support by holding sessions to share educators’ feelings about digital textbooks and trainings. Associations such as the Florida Association for Media in Education (FAME), listservs such as LM_NET, and public libraries’ e-book classes will excite school librarians’ interest in digital textbooks. Most 21st century professional development methods will prove beneficial to unconcerned school librarians.
For Stage 1, Informational, educators need to know the realistic expectations related to benefits and costs of an innovation by providing them with general information. Educators need to learn how the innovation would differ from current practices, as well as have the opportunity to experience the best practice by visiting other schools, classes, or meeting others involved with the innovation.

Most information exchange strategies, including “face-to-face conversations, brief reports during staff meetings, newsletters, and press releases” (Hall & Hord, 1987, p. 71) as well as administrator advocacy, support, and rap sessions, will prove useful for school librarians to obtain more information. Also, various information exchange strategies such as guest speakers, brochures, periodicals, small groups, staff meetings and vendor presentations, professional development and administrative can work as interventions for school librarians who have intensive Stage 1 concern. In addition, previous research shows that various 21st century professional development methods are the effective ways to deliver the related information to school librarians.

Since all participants in Florida and South Korea expressed high levels in Stage 1, Informational, these findings indicate that both a) less-experienced school librarians, laggards, and school librarians who read e-books a few times a week in Florida and b) less-experienced school librarians, early adopters, and school librarians who read e-books frequently and longer in South Korea require interventions for Stage 1, Informational.

To assist those with high concerns in Stage 2, Personal, on the basis of personal concerns, educators need help to understand how they should prioritize innovations over other jobs in terms of time and energy. Hall and Hord (1987) strongly emphasize, moreover, the importance
of encouraging the gradual use of innovation. The authors thus take precautions against all-encompassing or coercive applications.

Individuals with high Personal concerns will benefit from most information exchange strategies and 21st century professional development. The most important of these is administrative support: Hord and Thurber (1982) pinpoint several ways that can provide personal support, such as developing supportive organizational arrangements, broadcasting information and materials, holding grade-level meetings, providing consultations/reinforcements, rap sessions, and trainings. For example, school librarians who have already demonstrated their leadership in digital textbooks can work with education authorities to develop role models for other school librarians and would be an important intervention in this stage.

Although school librarians who participated in this study did not have higher concern in Stage 3, Management, they have become a subject of interest in digital textbook implementation. In fact, Florida state reports urge school librarians to play pivotal roles in the transition to digital learning. According to Florida Statutes K-12 education codes, school librarians should be on the “Digital Content Committee” to evaluate digital content (Florida's Digital Instructional Materials Work Group, 2013). They also argue that computer vendors should provide training for school librarians, so that they can run IT help desks.

In order to provide practical advice for school librarians with higher concerns in Stage 3, Management, Hall and Hord (1987) suggest 1) providing hands-on answers to demonstrate how to “fit” the innovation rather than add a new job; 2) establishing a plan or timeline to accomplish simple and specific jobs; and 3) demonstrating exemplary cases for successful or unsuccessful practice. The authors, however, are strongly wary of providing all day “how to” workshops to
demonstrate the innovation. Instead, they suggest the employment of in-house experts, hot lines, regular newsletters, and manuals.

Specific mediums for providing interventions are small groups, staff meetings, supportive organizational arrangements, rap sessions, and trainings. Above all, professional development technologies are most valuable. The Web 2.0 technologies such as blogs, Facebook, instant messaging, live streaming videos, online chats, online courses, podcasts/vidcasts, Twitter, videoconferencing (Skype), webinars, and Wikis allow school librarians to communicate with each other, vendors, or administrative personnel. The simple understanding of using these technologies is a strategy that school librarians may embrace and employ.

School librarians with concerns in Stage 4, Consequence, need continuous encouragement rather than unilateral instructions. People in this group require opportunities to refine their use and promote their skills. School librarians who are interested in Stage 4, Consequence, might locate free and downloadable educational resources or training materials for digital textbooks, or build a collection which links digital textbook curriculum with relevant resources.

Although they did not require interventions as much as other groups, Florida school librarians with 10–14 year working experiences who read e-books a few times a week and had long training experience were motivated by encouragement from others. For South Korean school librarians who are e-book heavy users, however, the special attention is required in Stage 4, Consequence. Since Korean school librarians expressed the biggest gaps in Stage 4, Consequence, according to the length and frequency of e-book use, interventions should be implemented for heavy users of e-books first. Again, the 21st century professional development
technologies would help school librarians better serve students better because they are convenient to share and illustrate prime examples of digital textbooks.

Since school librarians with concerns in Stage 5, Collaboration, are more likely to be leaders of a change effort, it is beneficial to engage them with advocacy and the promotion of collaborative work and committee activities to bring out their expertise in educating other colleagues. Identical interventions in Florida are not advisable for Stage 5, Collaboration, as Florida school librarians revealed very different intensities of concerns in this stage. It is thus necessary to customize interventions for novices, innovators, and heavy users of e-books. For South Korea, on other hand, novice school librarians need tailored, special care to promote their collaboration since they had the biggest gap in Stage 5, Collaboration.

The specific interventions to facilitate and encourage Stage 5, Collaboration, include exchanging ideas, improving group work skills and resources through an organizational development expert, and demonstrating school librarians’ work with colleagues who have less knowledge (Hall & Hord, 1987). However, the best promotion of collaboration and awareness is engagement with the community, which includes participating in associations, obtaining mentors or peer support, and collaborating with public libraries. In Florida, professional organizations such as the Florida Association for Media in Education (FAME) and the Florida Educational Technology Conference (FETC) could recognize model programs with awards.

School librarians with Stage 6, Refocusing concerns, are self-initiated and have their own goals. In this respect, appropriate directive actions are required to change those goals towards productive uses of the innovation. It is important to allow principals and team leaders to take action regarding those concerns.
Stage 6, Refocusing, suggests that school librarians with high concern should be encouraged to take action through productive direction (Hall and Hord, 1987). This stage allows them to conduct a pilot test with the support of resources and materials. Various conversation exchanging opportunities such as small groups, staff meetings, conferences, workshops, online chats, podcasts/vidcasts, Twitter, videoconferencing, and webinars might encourage school librarians to explore more benefits from digital textbooks.

Table 11, Intervention Strategies for Addressing User Concerns for Digital Textbook Integration, exhibits the possible strategies that can support school librarians to develop their leadership or alleviate school librarians’ concerns at a certain level. The overall categories and suited strategies were adopted from the research of Petherbridge (2007), consisting of the five categories: information exchange, professional development, support – administrative, community and 21st century professional development. The researcher marks the suggestions that CBAM theorists’ make in bold. The 21st century professional development methods were newly added according to previous research.

Interventions will be useful to the groups that expressed the higher concerns all over the stages or the specific stages. These are especially suggested for laggards, late majority groups, heavy users of e-books, highly trained groups in Florida, as well as less experienced school librarians, innovators, heavy users of e-books, and highly trained groups in South Korea. In particular, Korean school librarians expressed the biggest concern gap according to the speed with which they adopt innovation. Interventions should therefore be designed for innovators and early adopter groups.
Table 11. Intervention Strategies for Addressing User Concerns for Digital Textbook Integration

<table>
<thead>
<tr>
<th>Potential Interventions</th>
<th>Suited Intervention for Each Stage of Concern</th>
<th>References</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>INFORMATION EXCHANGE</td>
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<tr>
<td>Conversations</td>
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<td>Guest speakers</td>
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<tr>
<td>Mailed brochures</td>
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<tr>
<td>Newletters / Manuals</td>
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<tr>
<td>One-on-One conversations</td>
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<tr>
<td>Periodicals</td>
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<td>Small groups</td>
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<tr>
<td>Staff meetings</td>
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<td>v</td>
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<tr>
<td>Vendor presentations</td>
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<td>v</td>
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<tr>
<td>PROFESSIONAL DEVELOPMENT</td>
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<tr>
<td>Attending college or graduate school</td>
<td>v</td>
<td>v</td>
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<tr>
<td>Conferences</td>
<td>v</td>
<td>v</td>
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<td>School visits</td>
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<td>Short media presentations</td>
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<td>Workshops</td>
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<tr>
<td>SUPPORT - ADMINISTRATIVE</td>
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<tr>
<td>Developing supportive organizational arrangements</td>
<td>v</td>
<td>v</td>
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<tr>
<td>Dissemination: Broadcasting information and materials</td>
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<td>v</td>
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<td>External communications</td>
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<td>Grade level meetings</td>
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<td>Monitoring and evaluation</td>
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<td>Providing consultations and reinforcements:</td>
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<td>v</td>
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<tr>
<td>Administrator advocacy and support</td>
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<tr>
<td>Rap sessions: Sharing educators’ feelings or idea about digital textbooks</td>
<td>v</td>
<td>v</td>
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<tr>
<td>Trainings</td>
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Table 11. (continued).

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<tr>
<th>Potential Interventions</th>
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<tr>
<td><strong>COMMUNITY</strong></td>
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<tr>
<td>Associations</td>
<td>v v v v v v v</td>
<td>Hornung, 2012; Mitchell, 2012</td>
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<tr>
<td>Listservs</td>
<td>v v</td>
<td>Harlan, 2009; Mitchell, 2012</td>
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<tr>
<td>Mentors / Peer support</td>
<td>v v v v v v</td>
<td>Hord &amp; Thurber, 1982; Mitchell, 2012</td>
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<tr>
<td>Professional Learning Communities (PLC)</td>
<td>v v v v v v</td>
<td>Harvey, 2012</td>
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<tr>
<td>Professional Learning Networks (PLN)</td>
<td>v v v v v v</td>
<td>Harlan, 2009</td>
</tr>
<tr>
<td>Public libraries</td>
<td>v v v v v v</td>
<td>Hornung, 2012</td>
</tr>
<tr>
<td><strong>21ST CENTURY PROFESSIONAL DEVELOPMENT</strong></td>
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<tr>
<td>Facebook</td>
<td>v v v v</td>
<td>Mitchell, 2012</td>
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<tr>
<td>Instant messages</td>
<td>v v v v v v v</td>
<td>Mitchell, 2012</td>
</tr>
<tr>
<td>Live streaming videos</td>
<td>v v v v</td>
<td>Mitchell, 2012</td>
</tr>
<tr>
<td>Online chats</td>
<td>v v v v</td>
<td>Mitchell, 2012</td>
</tr>
<tr>
<td>Online courses</td>
<td>v v v v v v v</td>
<td>Harlan, 2009</td>
</tr>
<tr>
<td>Podcasts/Vidcasts</td>
<td>v v v v v v v</td>
<td>Harlan, 2009</td>
</tr>
<tr>
<td>Twitter</td>
<td>v v v v v v v</td>
<td>Harlan, 2009; Mitchell, 2012</td>
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<tr>
<td>Videoconferencing (Skype)</td>
<td>v v v v</td>
<td>Mitchell, 2012</td>
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<tr>
<td>Webinars</td>
<td>v v v v v v v</td>
<td>Harvey, 2012</td>
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<td>Wikis</td>
<td>v v v v</td>
<td>Harlan, 2009; Harvey, 2012; Hornung, 2012</td>
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5.6 Implications and Recommendations

This study investigates the perceptions and concerns of school librarians in Florida and South Korea about using digital textbooks within a planning period. Based on the results given above, this section considers the implications and offers recommendations—not only for the sample populations, but also for a broader audience of school administrators, educational policymakers, other educators, and library professionals.

5.6.1. Recommendations for Practice

5.6.1.1 School librarians. This study confirms that school librarians in both Florida and South Korea represent populations that are non-users of digital textbooks. The SoC profiles from participants in both regions were thus able to offer predictions on the areas of potential resistance: Florida school librarians expressed more personal rather than informational concerns, while Korean school librarians showed refocusing rather than collaboration concerns. The peak stage for both regions was in Stage 0, Unconcerned, which means that participants were occupied with other issues besides digital textbooks.

As the implementation of digital textbooks is imminent, thus, a top priority for school librarians would be to initiate conversations about digital textbooks and introduce interventions to relieve such concerns. For example, there are clear signs of school librarians lacking an understanding required for integrating technology (Stage 0, Unconcerned), and that school librarians feel they do not have enough time to spend on digital textbooks. Thus, efforts to share relevant information, encourage and motivate school librarians’ use, and enhance publicity of digital textbooks are imperative. Martin, V. D. (2011) indicates that as concrete measures professional development opportunities help school librarians.
Lastly, school librarians should acknowledge the need for interventions on Impact concerns (Stages 4, Consequence; 5, Collaboration and 6, Refocusing). As soon as schools incorporate digital textbooks, school librarians are more likely to become leaders in disseminating that technology: providing formal instruction or classes on technological skills is perceived as school librarians’ task (Powell, 2013c; Smith, 2013). School librarians should thus not only understand how to model the best instructional practices and advocate educational programs for all learners, but also develop programs and curricula that meet schools’ or districts’ initiatives (National Board for Professional Teaching Standards, 2012). Also, school librarians need to educate students and teachers on educational multimedia equipment and materials.

5.6.1.2 School administrators. The study identifies several potential groups to have resistance. As digital textbooks’ implementation is about to be realized, it is strongly recommend to provide training, assistance, emotional and technological support as quickly as possible, especially for groups who expressed more intense concern. At the same time, it cannot be ignored that proper curriculum and pedagogy need to be developed for school librarians who have more concerns at higher stages; thereby, they can keep developing their leadership in embracing digital textbooks.

School administrators should also remember that supporting interpersonal relationships is key for practicing leadership roles in technology integration (Johnston, 2011; Smith, 2013). In particular, supportive principals and teachers are the most critical aspects to technology integration (Johnston, 2011), and introducing digital textbooks will be no different.

5.6.1.3 Educational policy makers. Florida expects the transition to digital textbooks will reduce school spending (Natale & Cook, 2012) while South Korea expects to slowly eradicate chronic private education by implementing digital textbooks (J. H.-Y. Kim & Jung,
Whatever educational policymakers believe, if the government truly believes that digital textbooks are necessary for education systems in the 21st century, they should be aware of school librarians’ concerns: providing relevant interventions is vital to digital textbook implementation.

In addition, policymakers need to listen to Hall & Hord (1987), the authors of the CBAM, who underline that 1) Florida school librarians with strong concerns in Stage 2, Personal, need continuous encouragement and 2) it is useless to impose the values of digital textbooks on school librarians—rather, constructive and encouraging conversations with a full exchange of views is required. For South Korean school librarians with strong concerns in Stage 6, Refocusing, policymakers should establish clear-cut lines of authority and responsibility. Since such school librarians have a great potential to become leaders in integrating digital textbooks, policymakers should allow them to pilot test digital textbooks by offering opportunities to access relevant materials and resources.

5.6.1.4 Library and information science education. As previous research states, school librarians’ educational and professional activities are essential parts in leading technology integration (Forrest, 1993; D. Smith, 2010), as they provide educational programs with curricula that stimulate librarians to have more leadership and change their perceptions. Therefore, this study suggests that library and information science educators meet the requirements of the 21st century by strengthening their education programs. In the short run, programs need to cover the issues for Self SoC by providing general information for school librarians about digital textbooks, offering substantive aspects of digital textbooks, and explaining school librarians’ role and relationship within the school structure. In the long run (at least within three years), the SoC profile is predicted to move towards higher stages of concern. Thus, consideration about how to maximize the impact of digital textbooks on students, how to collaborate with other colleagues
and community members, and how to explore additional benefits must be taken. For those beyond their college degrees, universities can offer professional development opportunities for successful ways to integrate digital textbooks.

5.6.1.5 Other educators. The introduction of new technology will not be successful if school librarians are on their own. Collaboration within learning communities is very important when school librarians introduce instructional technology (International Society for Technology in Education (ISTE), 2012; Johnston, 2011; National Board for Professional Teaching Standards, 2012; Powell, 2013c). This collaboration, however, is not as common as it should be (Everhart et al., 2012) and school librarians are no longer considered the only technology integration experts within schools (Johnston, 2013). In order to successfully implement digital textbooks, other educators need to cooperate with school librarians in introducing innovations, sharing their strategies and communicating as a team.

5.6.2. Theory

Although the CBAM is a convenient tool for measuring individual’s concerns, it possesses a theoretical weakness. As mentioned in section 2.3.2, the concerns in CBAM refer to a psychological action based on personal make-up, prior knowledge, and prior experience when facing new experiences or environments to evaluate the need for improvement or change (Hall & Hord, 1987). It cannot, therefore, measure teachers’ positive perceptions (Straub, 2009). Since a concern in and of itself does not have any negative or positive meaning, researchers should recognize that the CBAM does not measure individual preference levels.

According to this study, librarians may resist through their concerns, but they may also enjoy digital textbooks. It was hard for not only the researcher but also participants to grasp the real meaning of an operational definition of concern, particularly, when the researcher developed
the Korean version of the SoCQ, wherein selecting each word to translate the meaning of “concern” proved convoluted. The term “concern” can be misunderstood as either a positive word, such as “interest,” or as a negative word, such as “worry” (Newhouse, 2001; Straub, 2009). It would thus be better for the CBAM to provide a memo or promote helping researchers and participants fully understand the intended meaning of “concern,” as it seems worthwhile to categorize, subdivide, and thus define that word.

**5.7 Limitations and Future Study**

Special caution should be exercised for the implications and recommendations from this study because of the limitations presented below.

**5.7.1. Limitations**

George et al. (2013, pp. 55–56) confirm that SoCQ can serve as a diagnostic tool, but should not be used for screening or judging. As an initial research, this study does not aim to screen or judge school librarians’ concerns, even though this is true that the results can be used for judging participants’ skills or abilities and the interventions can be distorted. Again, the researcher believes that identifying and understanding the issues and concerns from school librarians can help inform human resource departments of librarians’ concerns. Also, the findings provide implications and recommendations to help educational policymakers and school administrators identify school library issues that require further attention and resources.

This study also did not fully apply all three dimensions of the CBAM theory. In order to answer the research questions, the study integrated the CBAM while using the SoCQ in the CBAM as an instrument. Although all three dimensions of the CBAM were not applied in this study, the SoCQ made a diagnosis of school librarians as a preliminary study. As digital textbooks are disseminated, LoU and IC can be employed in future research in order to
comprehend an overall view of digital textbook initiatives. Moreover, this study tested one of three offered techniques—the SoCQ—to assess the stages of concern about innovation. Also, since CBAM researchers provide three various ways (one-legged conferencing, open-ended concern statements, and SoCQ) to identify school librarians’ concern, further studies need to apply the other two methods. At the very least, researchers should analyze open-ended questions, such as “When you think about digital textbooks, what are you concerned about?” (Hall & Hord, 1987, p. 66). This additional question will enable researchers not only to obtain an individual’s own narrations about digital textbooks, but also to obtain “a great deal more about what the concerns are about” (p.67).

The results from this study may not be applicable to all educators. Although the research questions were derived from the previous literature and the CBAM framework, the results from this study should not be generalized to represent other school librarian groups. Nevertheless, the investigation of school librarians’ understanding and current appreciation in two distinctive places—Florida and South Korea—provide practical frames of reference for other states or nations embarking on digital textbook innovation.

As with other research methods, the analyses of the data can be influenced by the researcher’s own disposition or world view. The researcher applied a reliable tool, which is the SoCQ, and tried to determine school librarians’ stages of concern in a detached way, and tried to respect any participants’ advice, comments, and feedback about their stages of concern. With a belief that whatever respondents’ comments were, their reactions reflect their concerns, the researcher tried to take note of participants’ reactions.
5.7.2. Future Studies

As an initial study, this project can be continued with various directions. Here are several suggestions for further investigation:

1. Conducting longitudinal studies to identify the dynamics of school librarians’ concern and evaluating the effectiveness of various trials. Further research, moreover, should track strategies that have successfully supported school librarians in adopting digital textbooks (depending on their SoC). Such studies would also supply a model for future technological innovations, providing a salutary lesson for their implementation by measuring SoC before and after particular interventions or comparing several areas which have different interventions.

2. Determining school librarians’ Levels of Use (LoU) of digital textbooks depending on their level of involvement in librarian practices and experiences, thus enabling school administrators to determine more efficient ways to help school librarians’ use digital textbooks. This can also act as an initial inquiry examining school librarians’ LoU of educational technology. Since LoU assesses people’s behavior, researchers should use a focused interview with intensive observation (Hall & Hord, 1987), starting with open-ended questions and then closing in on a particular step.

As a simpler technique, the “one-legged conference” format is suggested, which starts with broad questions and gradually focuses to category-specific probes (p.96). Again, LoU provides “the framework considering and describing the change process in ways that respond to policymakers’ needs for accountability” (Hall & Hord, 1987, p. 103). Also, LoU can be a milepost demonstrating rate of progress, specifics of progress on the innovation, or completion of progress.
3. Developing Innovation Configuration (IC) maps in order for school librarians to have a clear picture of what constitutes “high-quality” use of digital textbooks. IC helps “how facilitators identify and describe the various forms an innovation can take, showing the most ideal form of the innovation” (George et al., 2013, p. 5). In order to create an IC map, researchers must follow the following six steps (LaTurner et al., 2013a, pp. 41-47). (1) Carefully consider an innovation by visualizing, brainstorming, and exploring parts of the practice or change with respect to what the user would be doing. (2) Decide which components are major operational features of that practice. (3) Express the main behavior components using verbs. (4) Go over those components and determine sequential order. If required, reorder or group the components to make the best sense. (5) Knowing now what actually occurs, generate variations of each component, from ideal to less-than-ideal observable actions. (6) Lastly, improve the variations by reviewing, refining, and editing the entire document for various stakeholders.

4. Applying a mixed method, or an explanatory approach, to provide deeper understanding of librarians’ perceptions. By combining qualitative and quantitative methodologies (Creswell, 2009), mixed method research will not just “collect and analyze” data, but rather converge, integrate, and combine paradigms related to adopting digital textbooks. Greene (2007) formulated a mixed method paradigm for better understanding and engaging with multiplism. This method would lead to a better understanding of the complexity of digital textbook implementation, generating a “broader, deeper, more inclusive understanding” to “honor the complexity and contingency of human phenomena” (Greene, 2007, p. 21). Multiplism signifies that a mixed method accepts and respects multiple philosophical perspectives and theories of knowledge, helping to
verify diverse claims related to research questions. For engaging with difference, “value commitments” inspire and motivate a mixed method (Greene, 2007, p. 27) through three intertwining dimensions: philosophy, methodology, and ideology. Thus, mixed method research brings various philosophies together by gathering narratives from school librarians. An explanatory design would start with a quantitative study (in this case, the survey) to determine statistically significant differences. The research would then conduct an in-depth qualitative study to explicate these results (Creswell & Plano Clark, 2007). The study would then follow a participant selection model, which researchers apply when they need quantitative results to “identify and purposefully select participants for a follow-up, in-depth, qualitative study” (Creswell & Plano Clark, 2007, p. 74).

5. Studying a smaller, more homogenous sample size of school librarians’ SoC. This initial study compared two different geographical settings, and the researcher therefore considered it desirable to understand, investigate, define, and delineate the entire population of librarians impacted by technological innovation. Since there was no existent empirical research on school librarians’ concerns, the most urgent priority was identifying such issues. As a second step, a future study can be done within a smaller area, such as a school district, to offer a comprehensive analysis of school librarians’ attitudes. Throughout this study, the researcher seeks to deepen the understanding of respondents’ perceptions in a given situation. Since not all school districts have the same plans or schedules for adopting digital textbooks, however, a focused study would allow researchers to obtain more prompt and practical responses.

6. Conducting further comparison studies that deal with various issues in different places. As described in section 2.2.3, many U.S. states as well as other nations (such as Hong
Kong, Japan, Singapore, and several European countries) have a specific plan for digital textbook implementation. A study comparing two different places would explain how digital textbooks can be efficiently implemented, the strong or weak points in a given environment, and where digital textbooks excel when compared to other regions. An even further study could compare school librarians’ concerns and perceptions with those of another state to show how top-down administration affects such concerns.

7. Exploring further information specialists’ perceptions on technological innovations by employing the Stage of Concern Questionnaire and the CBAM theory. While the CBAM was originally developed for school educators, it can also be applied for various groups, including parents and students (Hall & Hord, 1987). While information science has not employed the CBAM much, it should be actively utilized for other innovations. As more technological innovations are introduced, thus requiring information specialists to be leaders in integrating those technologies, more studies must be done to identify those specialists’ concerns so as to support them with proper interventions.

5.8 Conclusion

While offering different educational cultures, Florida and South Korea are both about to embrace digital textbooks. The purpose for this implementation, however, is quite different for each region: Florida expects digital textbooks to reduce education expenses, while South Korea expects to slowly eradicate chronic private education through digital textbooks. Considering this top-down decision, both educators and school librarians will be required to support this innovation. Meanwhile, as school librarians are expected to play a leadership role in integrating technology—this study thus explored school librarians’ concerns in two regions, comparing the
results in order to address human resource issues pertaining to the diffusion of digital textbooks so as to provide timely support in facilitating their adoption.

In order to identify school librarians’ stages of concern and the relationship between those stages and their four characteristics, this study applied the CBAM theory and SoCQ: 209 school librarians in Florida and 259 school librarians in South Korea completed both the SoCQ and a demographic survey. The researcher analyzed the data using SoCQ analysis as well as t-tests. SoCQ has proven effective in identifying school librarians’ stages of concerns. The SoC from Florida school librarians presented a ‘Negative One-Two Split’ user pattern, while those from South Korea presented a typical non-user pattern. The CBAM theory anticipates that there will be potential resistance from school librarians towards digital textbook implementation. Also, this study found that, according to their characteristics, school librarians showed the biggest gaps of concerns in the Impact stages (Stages 4, Consequence; 5, Collaboration, and 6, Refocusing) while having relatively high concerns in the Self stages (Stages 0, Unconcerned; 1, Informational, and 2, Personal).

Based on the CBAM theory, the findings underscore a need of various interventions. Since school librarians’ apathy was found while digital textbook integration will be put into effect soon and, the intervention to inform school librarians of characteristics and strong points of digital textbooks as well as restrictions for using them is urgent (Stage 0, Unconcerned). Moreover, the study findings argue that it is urgent to introduce various interventions for specific groups of participants. For example, South Korean school librarians, who had the second highest concern in Stage 1, Informational, need to receive general information including benefits and costs of digital textbooks. Florida school librarians, who had the second highest concern in Stage 2, need guidance to prioritize to digital textbooks as well as continuous encouragement.
The results from the study stress the importance of professional development for school librarians. Data from the study provides administrators with information that targeted and customized interventions according to school librarians’ characteristics. Moreover, to policymakers, the theory suggests gradual implementation of digital textbooks in Florida and pilot test opportunities in South Korea. Lastly, the study urges library and information science education to have short and long term strategies to embrace digital textbooks.
APPENDIX A

THE SURVEY QUESTIONNAIRES

Part A: SoC Questionnaire

0 1 2 3 4 5 6 7
Not true of me now Somewhat true of me now Very true of me now
1. I am concerned about students' attitudes toward digital textbooks.
2. I now know of some other approaches that might work better than digital textbooks.
3. I am more concerned about another innovation.
4. I am concerned about not having enough time to organize myself each day (in relation to Digital Textbooks).
5. I would like to help other faculty in their use of digital textbooks.
6. I have a very limited knowledge of digital textbooks.
7. I would like to know the effect of the innovation on my professional status.
8. I am concerned about conflict between my interests and my responsibilities.
9. I am concerned about revising my use of digital textbooks.
10. I would like to develop working relationships with both our faculty and outside faculty using digital textbooks.
11. I am concerned about how digital textbooks affects students.
12. I am not concerned about digital textbooks at this time.
13. I would like to know who will make the decisions in the new system.
14. I would like to discuss the possibility of using digital textbooks.
15. I would like to know what resources are available when we decide to adopt digital textbooks.
16. I am concerned about my inability to manage all digital textbooks requires.
17. I would like to know how my teaching or administration is supposed to change.
18. I would like to familiarize other departments or people with the progress of this new approach.
19. I am concerned about evaluating my impact on students (in relation to digital textbooks).
20. I would like to revise digital textbooks instructional approach.
21. I am preoccupied with things other than digital textbooks.
22. I would like to modify our use of digital textbooks based on the experiences of our students.
23. I spend little time thinking about digital textbooks.
24. I would like to excite my students about their part in this approach.
25. I am concerned about time spent working with nonacademic problems related to digital textbooks.
26. I would like to know what the use of digital textbooks will require in the immediate future.
27. I would like to coordinate my effort with others to maximize digital textbooks.
28. I would like to have more information on time and energy commitments required by digital textbook.
29. I would like to know what other faculty are doing in this area.
30. Currently, other priorities prevent me from focusing my attention on digital textbooks.

31. I would like to determine how to supplement, enhance, or replace the innovation.
32. I would like to use feedback from students to change the program.
33. I would like to know how my role will change when I am using digital textbooks.
34. Coordination of tasks and people (in relation to digital textbooks) is taking too much of my time.
35. I would like to know how digital textbooks is better than what we have now.

Part B: Demographic Information

1. Please indicate the number of years of service as a school librarian: __year
2. In terms of digital textbooks, do you consider yourself to be a:
   ○ Innovator (the first to adopt)
   ○ Early adopter (the early one to adopt innovation before most other people do)
   ○ Early majority (the careful one to adopt innovation after seeing it used successfully)
   ○ Late majority (the skeptical and traditional)
   ○ Laggards (the last to adopt)
3. How often do you read/use electronic or digital books?
   ○ Daily or almost every day    ○ Few times a week    ○ Few times a month
   ○ Less often                  ○ Not read e-books
4. How long do you read/use electronic or digital books per week?: __hours
5. How have you educated yourself about digital textbooks?
   □ By myself    □ On the job    □ Colleagues or study groups with colleagues    □ Mentors
   □ Professional seminars including webinars    □ County or school based workshops
   □ University campus-based courses    □ Conferences    □ Online course    □ Other
   □ Did not have any chance to educate myself
6. How long have you educated yourself about digital textbooks?: __hours
7. What is the best way to describe your position?
   ○ School librarian with state certified as both teacher and library media specialist
   ○ School librarian with state certified library media specialist, or with a master’s degree in library and information science, but not certified as a teacher)
   ○ Other (administrator, student, university faculty, supervisor teacher, etc.)
8. Do you work full time or part time?
   ○ Full time  ○ Part time in one school
   ○ Part time in two schools but equal to a full-time position
   ○ Part time in more than two schools but equal to a full-time position

9. What concerns do you have with the Florida law that is requiring all students to be using digital textbooks by 2015?
   [Korean]
   What concerns do you have with the plan of Ministry of Education that will disseminate digital textbooks by 2015?
   (*According to ‘2013 development and application of digital textbooks’, digital textbooks are used in Grade 3 through Grade 11 (social studies, science and English) from the 2014 school year and they will be integrated to other subjects from 2015 (’11.6.29).)

10. Is there anything else you would like to add?
    * Thank you for your time for this survey. Those of who participate in this survey will be entered in a drawing. If you want to have a chance to win, please leave your email address.
    [Korean] Those of who participate in this survey will be entered in a drawing for online gift cards. If you want to have a chance to win, please leave your email address.
### APPENDIX B

**THE SURVEY QUESTIONNAIRES IN KOREAN**

Part A: 관감 단계 질문

<table>
<thead>
<tr>
<th>현재 나에게 사실이 아니다</th>
<th>현재 나에게 다소 사실이다</th>
<th>현재 나에게 매우 사실이 다</th>
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</thead>
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<td>5</td>
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<tr>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

1. 나는 디지털교과서에 대한 학생들의 태도에 대해 관심이 있다.
2. 나는 디지털교과서를 더 잘 활용할 수 있는 몇 가지 다른 방법을 알고 있다.
3. 나는 다른 학생에 더 관심이 많다.
4. 나는 일과 중 디지털교과서를 준비하는데 시간이 부족하다는 것을 느낀다.
5. 나는 디지털교과서를 활용하는 다른 교사들을 돕고 싶다.

6. 나는 디지털교과서에 대한 매우 제한적인 지식을 가지고 있다.
7. 나는 디지털 교과서의 도입으로 인한 업무 재편성이 나의 전문적 상황에 미치는 영향에 대해 알고 싶다.
8. 나는 디지털교과서와 관련된 내 관심과 그로 인한 책임 사이의 갈등에 대해 우려하고 있다.
9. 나는 나의 디지털교과서를 활용법을 개선하고 싶다.
10. 나는 디지털 교과서를 사용하고 있는 교내외 교사들과 업무상의 관계를 발전시키고 싶다.

11. 나는 디지털교과서가 학생들에게 어떤 영향을 미치게 될지 궁금하다.
12. 나는 현재 디지털교과서에 대해 관심이 없다.
13. 나는 디지털 교과서 시스템에 대해 누가 의사결정을 하게 될지 알고 싶다.
14. 나는 디지털교과서의 사용 가능성에 대해 논의하고 싶다.
15. 나는 디지털교과서 도입시 어떤 자료들을 사용할 수 있는지 알고 싶다.

16. 나는 디지털교과서에 수반된 모든 것들을 실행할 수 있는 능력이 부족하다고 느낀다.
17. 나는 디지털교과서 도입이 나의 교육방법이나 행정업무에 어떤 변화를 가져올지 알고 싶다.
18. 나는 디지털교과서를 혁신적으로 활용하는 부서나 교사들과 친해지고 싶다.
19. 나는 디지털교과서와 관련하여 내가 학생들에게 어떤 영향을 미치는지 평가해보고 싶다.
20. 나는 디지털교과서를 활용한 수업 방법을 개선하고 싶다.
21. 나는 디지털교과서가 아닌 다른 업무에 몰두하고 있다.
22. 나는 학생들의 경험을 기반으로 디지털교과서 활용방안을 수정하고 싶다.
23. 나는 디지털교과서에 대해 거의 생각할 틈이 없다.
24. 나는 디지털교과서 활용시 학생들이 적극적인 참여를 유도하고 싶다.
25. 나는 디지털 교과서와 관련된 수업 외 문제들로 많은 시간을 소요하게 될 것이 염려된다.

26. 나는 디지털교과서를 활용하는 데 있어 곧 무엇이 필요하게 될지 알고 싶다.
27. 나는 디지털교과서의 효과를 극대화하기 위해 다른 사람들과 협력하고 싶다.
28. 나는 디지털교과서 도입에 어느 정도의 시간과 열정이 필요한다고 알고 싶다.
29. 나는 다른 교사들이 디지털교과서를 어떻게 활용하는지 알고 싶다.
30. 현재 나는 다른 우선 순위에 있는 업무로 인해 디지털 교과서에 집중하기가 어렵다.

31. 나는 디지털교과서를 보완, 향상, 또는 대체하는 방법을 알아내고 싶다.
32. 나는 현재 디지털교과서 시스템을 보완하기 위해 학생들의 피드백을 사용하고 싶다.
33. 나는 디지털교과서 도입으로 나의 역할이 어떻게 변화할지 알고 싶다.
34. 과업과 사람들 간의 협력에 나는 너무 많은 시간을 소요하고 있다.
35. 디지털교과서가 기존 교육방법보다 무엇이 더 나은지 알고 싶다.

Part B: 인구통계 질문

1. 사서 교사로 재직한 근무년수를 적어 주십시오.: ___년
2. 디지털 교과서와 관련하여 본인은 어떤 분류에 속한다고 생각하시는지요:
   ○ 혁신가(innovators, 가장 먼저 새로운 상품을 경험하는 그룹)
   ○ 초기 수용자(early adopters, 남들보다 앞서 혁신을 경험하는 그룹)
○ 초기 다수 수용자(early majority, 실용주의자로서 기술이 완성되고 검증을 거친 후에 활용하는 그룹)
○ 후기 다수 수용자(late majority, 신기술에 회의적이며 전통적인 그룹)
○ 지각 수용자(laggards, 회의론자로서 가장 늦게 기술을 수용하는 그룹)

3. 얼마나 자주 전자책 또는 디지털책을 읽거나 사용하시는지요?
   ○ 매일
   ○ 일주일에 3-4 회
   ○ 한달에 3-4 회
   ○ 가끔
   ○ 전자책을 이용하지 않음

4. 일주일에 얼마나 오래 전자책 또는 디지털책을 이용하시는지요?: ___ 시간

5. 디지털 교과서와 관련하여 어떻게 자기계발을 하고 계신가요?
   □ 스스로 역량계발 □ 현장교육 □ 동료나 스터디 그룹 □ 멘토(선배 교사)
   □ 웹세미나를 포함한 전문 세미나 □ 교육청 또는 학교의 워크숍
   □ 대학/대학원 과목 수강 □ 학회 □ 온라인 교육 □ 기타 □ 교육경험 없음

6. 얼마나 오랫동안 디지털 교과서에 대해 교육받으셨는지요?: ___ 시간

7. 현재 직위를 어떻게 표현할 수 있을까요?
   ○ 사서교사: 「초·중등교육법」 제 21 조에 따른 사서교사 자격증을 지니고
     학교도서관의 업무를 담당
   ○ 실기교사: 문헌정보학 또는 도서관학을 이수하여 「초·중등교육법」 제 21 조에 따른 실기교사 자격증을 지니고 학교도서관의 업무를 담당
   ○ 사서: 「도서관법」 제 6 조제 2 항에 따른 자격요건을 갖추고 학교도서관에서 근무
   ○ 기타 (교육행정가, 학생, 대학 교원 등)

8. 현재 어떤 채용 형태로 근무중이신가요?
   ○ 정규직
   ○ 한 학교에서 계약직
   ○ 두 학교에서 계약직
   ○ 두 학교 이상에서 계약직
   ○ 기타
9. 2015년 까지 디지털교과서를 배포하려는 교육부의 계획에 대해 어떤 의견을 가지고 계신지요?

(*참고: ‘2013년 디지털교과서 개발 및 적용 방안’에 따르면 2014년부터 초 3~고 2까지 디지털교과서(사회, 과학, 영어)를 적용하고 2015년부터는 타교과로 전면 확대 적용(11.6.29. 발표) 예정입니다.)

10. 기타 추가하고 싶은 다른 의견이 있으신가요?

* 설문에 응해주시면 대단히 감사합니다. 온라인설문에 응해주시신 선생님들 가운데 27분을 추천하여 교보문고 온라인 상품권을 보내드리려고 합니다. 추천을 원하시는 분은 아래에 이메일 주소를 남겨주시길 부탁드립니다.(결과는 설문마감 후 이메일로 안내될 예정입니다.)
APPENDIX C

CONSENT FORM FOR SCHOOL LIBRARIANS IN FLORIDA

The leadership role of school librarians in the adoption of digital textbooks: Evaluating school librarians’ stages of concern in Florida and South Korea

My name is Ji Hei Kang and I am a doctoral candidate under the advisement of Dr. Nancy Everhart at Florida State University School of Information doing research on digital textbooks and school librarians.

We would appreciate your professional help and expertise in answering this survey.

The purpose of this study is to identify the level of concerns that school librarians have with respect to adoption of digital textbooks. A survey, consisting of the Stages of Concern Questionnaire (SoCQ, 35 items) and demographic questions (10 items), is applied as a means to identify the answers to the research questions. The study involves answering an online survey and should take approximately 10-20 minutes. The benefits of the research are helping further our knowledge of the level of concerns on digital textbooks. There are no foreseeable risks to participating in this study.

Your participation is completely voluntary and you are free to withdraw you consent and discontinue participation in the survey at any time. There are no consequences if you decide not to complete the survey. Individual results will remain confidential to the extent allowed by law and we do not collect any individual information. All those who complete the survey will be entered into a drawing to get online bookstore gift cards. [Korean: All those who complete the survey will be entered into a drawing to get Kyobo bookstore online gift cards.]

If you have any questions or concerns about this survey, feel free to contact Ji Hei Kang at jk11e@my.fsu.edu / 1-716-650-8430 [Korean: 070-9034-4097] or Dr. Nancy Everhart at everhart@fsu.edu 850-644-8122 [Korean: 1-850-644-8122]. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the Human Subjects Committee at Florida State University at 2010
Levy Street, Research Building B, Suite 276, Tallahassee, FL 32306-2742, or 850-644-8633 [Korean: 1-850-644-8633], or by email at humansubjects@magnet.fsu.edu.

If you have read and understand above information and certify that I am 18 years of age or older, you consent to participate in this study by clicking “next.”
APPENDIX D

CONSENT FORM FOR SCHOOL LIBRARIANS IN SOUTH KOREA

디지털교과서 도입시 서서교사들의 리더십 역할에 관한 연구: 플로리다와 한국 사서들의 관념단계 분석을 중심으로
안녕하십니까?

저는 플로리다 주립대학교 문헌정보학과 박사 과정에 재학 중인 강지혜입니다. Dr. Everhart 교수님의 지도하에 디지털 교과서에 대한 사서교사들의 관념단계를 연구하고 있습니다.
본 설문에 응해주셔서 대단히 감사합니다.

본 연구는 디지털교과서 도입시 사서교사들이 어떤 관념단계를 가지고 있는지 분석하고자 합니다. 설문지는 관념단계설문지 (the Stages of Concern Questionnaire, 35 문항)와 인구통계설문지 (10 문항)로 구성되어 있습니다. 설문은 온라인으로 진행되며 10-20 분 소요됩니다. 선생님의 귀견은 사서교사의 리더십 연구에 귀한 자료가 될 것입니다. 본 연구 참여에 대한 예측 가능한 위험이 없습니다.

선생님의 참여는 순수하게 자발적인 것이며 동의와 참여의 중단은 언제든지 가능합니다. 만약 인터뷰를 중단하셔도 이에 따른 불이익은 없을 것입니다. 응답하신 답변은 익명으로 처리되며 범에 의해 보호됩니다. 개인정보는 수집되지 않습니다. 결과는 연구 이외의 다른목적으로는 절대 사용하지 않을 것입니다. 감사의 표시로 설문을 완료하신 분들 가운데 27 분을 선정하여 교보문고 상품권을 증정할 예정입니다.

본 연구와 관련하여 어떤 문의사항이 있으시면 언제든지 연구자 강지혜
(★@my.fsu.edu / ★-★-★-★)나 지도교수 Dr. Everhart (★@fsu.edu / 1-★-★-★)
에게 연락주시길 부탁드립니다. 또한 기타 질문이나 문의사항이 있으시면 플로리다 주립대학교의 Human Subjects Committee (2010 Levy Street, Research Building B, Suite 276, Tallahassee, FL, USA 32306-2742 / 1-850-644-8633 / humansubjects@magnet.fsu.edu) 로 연락하실 수 있습니다.
바쁘신 중에 연구에 기꺼이 참여해주셔서 감사합니다.

위의 사항이 명확하게 이해 되셨고 18세 이상 성인이시며 이 연구에 참여하시기를 동의하신다면 아래 “다음” 버튼을 클릭해주세요.
APPENDIX E

APPROVAL FOR RESEARCH FROM HUMAN SUBJECTS COMMITTEE

Office of the Vice President for Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673 · FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 09/20/2014

To: Ji Hei Kang [redacted]

Address: 142 Collegiate Loop PO Box 3062100 Tallahassee FL 32306-2100

Dept.: INFORMATION STUDIES

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research

The leadership role of school librarians in the adoption of digital textbooks: Evaluating school librarians' stages of concern in Florida and South Korea

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 09/28/2015, you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date, however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to ensure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Nancy Everhart <everhart@fsu.edu>, Advisor
HSC No 2014.13535
APPENDIX F

SEDL LICENSE AGREEMENT

To:       Ji Hei Kang (Licensee)
          Florida State University
          142 Collegiate Loop
          Tallahassee, FL 32306-2100

From:     Nancy Reynolds, Information Associate
          SEDL
          Information Resource Center-Copyright Permissions
          4700 Mueller Blvd.
          Austin, TX 78723

Subject:  License Agreement to reprint and distribute SEDL materials

Date:     August 29, 2014

Thank you for your interest in using the Stages of Concern Questionnaire (SoCQ 075) published by SEDL in Measuring Implementation in Schools: Stages of Concern Questionnaire written by Archie A. George, Gene E. Hall, and Suzanne M. Stiegelbauer in 2006, as Appendix A, pages 79-82; It is also available in electronic format as SEDL’s Stages of Concern Questionnaire (SoCQ) Online, and in the book Taking Charge of Change revised ed., published in 2006 and written by Shirley M. Hord, William L. Rutherford, Leslie Huling, and Gene E. Hall, on pages 48-49.

The SoCQ 075 will be referred to as the “work” in this permission agreement. SEDL is pleased to grant permission for use of the work cited above by the Licensee, a graduate student at Florida State University in Tallahassee, FL, in a dissertation titled The Leadership Role of School Librarians in the Adoption of Digital Textbooks: Evaluating School Librarians’ Stages of Concern in Florida and South Korea and distributed to participants in the format of the SoCQ Online or a printed version of the survey. The following are the terms, conditions, and limitations governing this limited permission to reproduce the work:

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Thank you, again, for your interest in using SEDL's Stages of Concern Questionnaire (SoCQ 075). If you have any questions, please contact me at 800-476-6881, ext. 6548 or 512-391-6548, or by e-mail at nancy.reynolds@sedl.org.

Sincerely,

Nancy Reynolds for SEDL

[Signature]

Agreed and accepted:

[Signature] 08/29/2014

Printed Name: Ji Hei Kang

Date signed

September 2, 2014
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BIOGRAPHICAL SKETCH

Ji Hei Kang

Ji Hei Kang earned a Bachelor’s degree in Library and Information Science and Business Administration from the Dongduk Women’s University in 2002 and a Master’s degree in Library and Information Science in the Sungkyunkwan University in 2006. She worked for LG Sangnam Library for almost 8 years before enrolling in the doctoral program at the School of Information within the College of Communication and Information, at Florida State University, USA. Her research interests are information adoption behavior, school librarians’ leadership and implement of digital textbooks in a library.