Culture and Context in the Mandated Implementation of Digital Textbooks in Florida and South Korea

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Abstract

Digital textbooks are becoming increasingly popular in schools throughout the world. Simultaneous mandates to adopt digital textbooks in the country of South Korea and the U.S. state of Florida provide an opportunity to study how culture and context might impact this implementation from the perspective of the school librarian who serves multiple roles when new technology is introduced. In this study the Concerns-Based-Adoption-Model (CBAM) was used to identify the concerns of school librarians in Florida about their potential role in the implementation of digital textbooks and how personal levels of adoption relate to these concerns. Results indicate that innovators and early adopters have higher levels of concern, which are more substantive and practical, while late majorities and laggards have more vague uneasiness and lurking anxiety. Regardless of the speed they adopt innovations, school librarians have similar levels of personal concern.
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1   Introduction

Digital textbooks are becoming increasingly popular in schools throughout the world. This trend accompanies a commitment of schools to facilitate 21st century learning and an intensified presence of the Internet and digitally rich materials in classrooms. There are also perceived advantages of digital textbooks such as increased comprehension, differentiation, cost-savings, health and safety, and protection of the environment (Mardis, et.al, 2010). Simultaneous mandates to adopt digital textbooks in the country of South Korea and the U.S. state of Florida provide an opportunity to study how culture and context might impact this implementation from the perspective of the school librarian who serves multiple roles when new technology is introduced.

1.1   Digital textbooks in Florida and South Korea

In the United States, Secretary of Education Arne Duncan has called for a transition from printed textbooks to digital ones as quickly as possible, noting that textbooks should be obsolete in a few years and that digital textbooks will enable the U.S. to keep up with other countries "whose students are leaving their American counterparts in the dust." (ALA, 2013, p. 32). Florida is one state that is heeding this imperative. In June 2011, Florida's governor signed a bill mandating all public schools in the state to use entirely digital textbooks and assessments by 2015. One school district in Florida already serves as a digital textbook leader. Since 2010, Clearwater High School in Pinellas County established a 1:1 initiative, placing an e-reader in the hands of each of its 2100 students.

Implementation of digital textbooks began even sooner in South Korea. On March 8, 2007, based on 'The Plan for Commercializing the Digital Textbook,' the Education Ministry of South Korea announced that they would develop and apply digital textbooks for 25 K-12 courses by 2011 (KERIS, 2007). Since then, South Korea has played a pivotal role in leading changes of teaching practice by integrating digital textbooks into schools (Kim & Jung, 2010). Subsequent to a pilot test of digital textbooks in 132 model

schools between 2007 and 2011, the Ministry of Education, Science and Technology declared there would be a nation-wide mandated implementation of digital textbooks by 2015 (KERIS, 2011). A plan to use digital textbooks at hundreds of elementary and middle schools around the country during the 2014 school year was scaled back to better understand results of pilot tests and public opinion and full enforcement is to be determined in the first half of 2015.

1.2   The potential roles of school librarians in digital textbook implementation

Formal roles have yet to be identified for school librarians in digital textbook implementation in either the U.S. or South Korea. However, in a 2010 white paper (Mardis, et. al, 2010) some potential roles have been envisaged. The authors note that:

> 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).

Similarly, in South Korea, school librarians' roles with digital textbooks are not agreed upon, although the Library Act (Ministry of Culture, Sports and Tourism, 2007) codifies traditional school librarians' roles very clearly:

- Collection, organization, preservation, and provision of services of materials necessary for school education;
- Combined administration and provision for use of the educational materials kept by a school;
- Development, manufacture, and provision for use of audio-visual materials and multimedia materials;
- Construction of the information sharing system utilizing information management system and communication network and provision for use of such system;
- Education of information utilization through the instruction of library use, education on reading, cooperative teaching, etc.; and
- Other duties necessary for the execution of functions as a school library.

Moreover, because most school librarians currently are in charge of providing print textbooks, they may potentially continue this duty with digital textbooks in their schools, which could be also the case in Florida. In both countries, the school librarians' role in implementation of digital textbooks has other leadership implications (Everhart, et.al, 2011).

Given the potential for the school-wide impact, coupled with either a state or national mandate for this new technology, it was reasoned that school librarians would be concerned about the implementation of digital textbooks. This preliminary study sought to answer the following research question: What are school librarians concerns about the implementation of digital textbooks in Florida? Further study will seek to determine concerns of school librarians in South Korea and compare the concerns to the culture and context in which they occur.

1.3   Methodology

In order to ascertain Florida school librarians' early stage of concerns about digital textbooks, a study was conducted using the Concerns-Based Adoption Model (CBAM), which is widely used as both theory and methodology to identify an individual's concern and level of use when implementing innovations and new technologies. Concern is defined as "the composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task" (Hall & Hord, 1987, p. 58). A concern is a psychological

action based on personal make-up, knowledge, and experience when a person faces new phases or environments and needs improvement or changes (Hall & Hord, 1987).

Hall and Hord (1987) note that this theory rests on several assumptions: (a) change is a process, not an event; (b) an individual accomplishes change; (c) the change process is an extremely personal experience; (d) individuals go through various stages of change; (e) the availability of a client-centered prescriptive model can develop the individual's capability with staff development; and (f) these changes need to be monitored in an adaptive and systematic way. Along with these assumptions, CBAM includes three main concepts: 1) Stages of Concern (SoC), which is the main idea employed by this study; 2) levels of use (LoU); and 3) innovation configurations (IC) (Anderson, 1997).

This study particularly employs SoC, which is one of the methods used to assess the stages of concern interpreted by the Stages of Concern Questionnaire (SoCQ). It includes seven categories, which are not exclusive of one another, although these seven stages have distinctive characteristics (Table 1). The model assumes that when individuals encounter something new, they are interested in all stages, but are still more involved in a particular stage. The SoCQ also enables researchers to determine a person's level of adoption of an innovation.

	Stage	Concern
0	Awareness	Little concern or involvement with the initiation
1	Informational	Gains more information about the innovation
2	Personal	Uncertainty about the personal desideratum toward the new program
3	Management	Managing skills such as scheduling and integrating
4	Consequence	Attempts at innovation on students
5	Collaboration	Shares interests with others in the new program
6	Refocusing	Focuses on pursuing more benefits of the innovation or exploring an alternative program

Table 1: Stages of Concern

The survey was conducted during the month of October 2012 using the online version of the SoCQ, which is the encrypted survey. Researchers recruited 170 participants applying email promotion among Florida Association for Media in Education (FAME)'s members. A two-part instrument, the Stages of Concern Questionnaire (SoCQ) (35 items) and a demographic survey (16 items) were applied. The first section dealt with SoCQ in which the term of 'innovation' was modified to 'digital textbooks.' The percentiles of the different levels of concerns were calculated by matching the average score of each stage to the established percentiles.

2 Conclusion

Overall, this sample of Florida school librarians profile for concerns about digital textbooks reflects patterns of the typical nonuser in the SoCQ profile (Hall, George, & Rutherford, 1977). Profiles can be seen in Figure 1. The nonuser concern profile is the most common having the highest values on Stages 0, 1 and 2 with relatively lower values on Stages 4, 5 and 6. Furthermore, the nonuser profile demonstrates that school librarians' concerns about digital textbooks are very much in the initial phase. If the innovation is positive and there is proper support for implementation, the plotted concern profile wave will progress from left to right over time since the SoCQ hypothesizes that the individuals develop their concerns progressively over

the course of stages (Hall & Hord, 1987). This profile is reflecting the current status, given the fact that the State of Florida has only mandated the use of digital textbooks and has gone no further.

Another notable finding in this profile is that one can reasonably assume that it reflects potential resistance to the implementation of digital textbooks. Hall, George, & Rutherford (1977) considered Stage 2 to be more intense than Stage 1, and the tailing up of Stage 6 as a negative nonuser concerns profile, which has potential resistance. This digital textbook profile (Figure 1) pertains to the first reason for the negative disposition. The percentile of Stage 2 (78%) is slightly higher than that of Stage 1 (75%) indicating that school librarians are more concerned about digital textbooks in the personal concerns stage. The participants expressed more concern over personal impact and responsibility with regard to digital textbooks than over gathering the substantive information about digital textbooks. Of particular interest, the high Stage 2 concern profile presents a level of disagreement or doubt regarding the implementation of digital textbooks. It is stressed that Stage 2 concerns should be reduced before the individual can appreciate the coming innovation (Hall, George, & Rutherford, 1977).
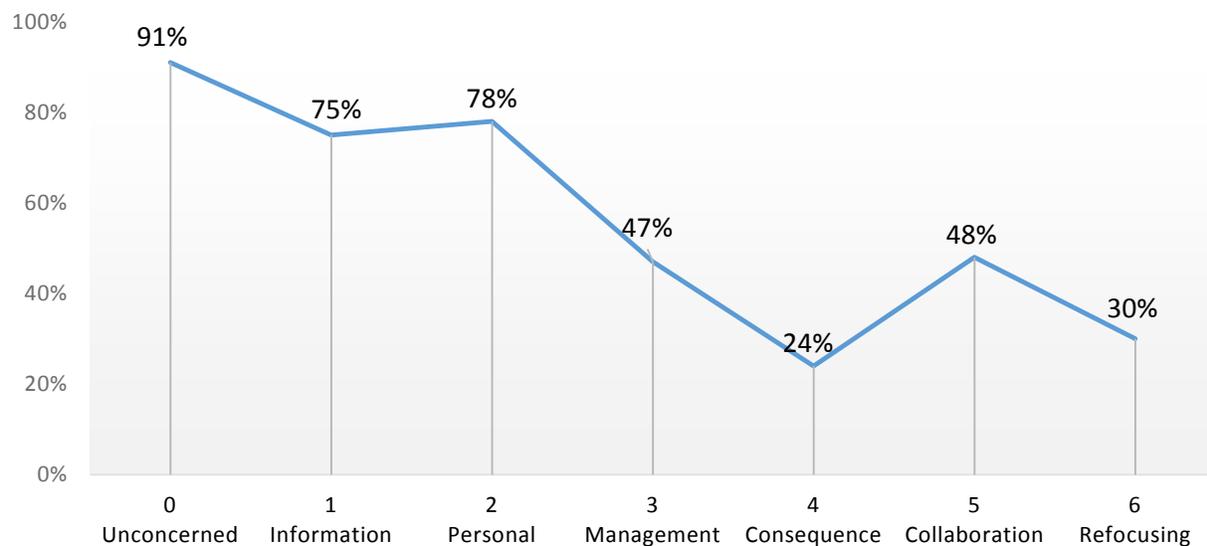

Figure 1: Stages of Concern Profile for School Librarians' and Digital Textbooks

It is interesting to note that school librarians in Florida, who are all in the same situation concerning digital textbook implementation, have different stages of concern about it. Although all respondents commonly have the highest concerns on Stage 0 and the lowest concerns on Stage 4, overall Figure 2 clearly demonstrates the differences among the five categories. School librarians who may adopt digital textbooks quickly have higher stages of concern about the innovation. Alternately, as school librarians are conservative regarding the innovation, they have lower stages of concern. This seems to indicate that innovators and early adopters have higher levels of concern, which are more substantive and practical, while late majorities and laggards have more vague uneasiness and lurking anxiety. What is unique is that regardless of the speed they adopt the innovation, school librarians have similar levels of personal concern (Stage 2). The biggest gap among the different adopter categories is Stage 5: the collaboration stage. The innovators and early adopters have many more concerns in Stage 5 than in other categories. As school librarians quickly embrace new technology, they worry more about how to share digital textbooks initiatives, pool knowledge, prepare new technology, and work together.

Figure 2 also demonstrates future potential resistance in terms of a negative nonuser concerns profile. Although across every adopter category the intensity of concern of Stage 6 is lower than that of Stage 5; the intensity of three categories, which are innovators, early adopters, and early majorities on Stage

2 is higher than Stage 1. This implies that, as mentioned above, there will be negative reactions about digital textbook implementation, and a very innovative group of people will lead these resistances.
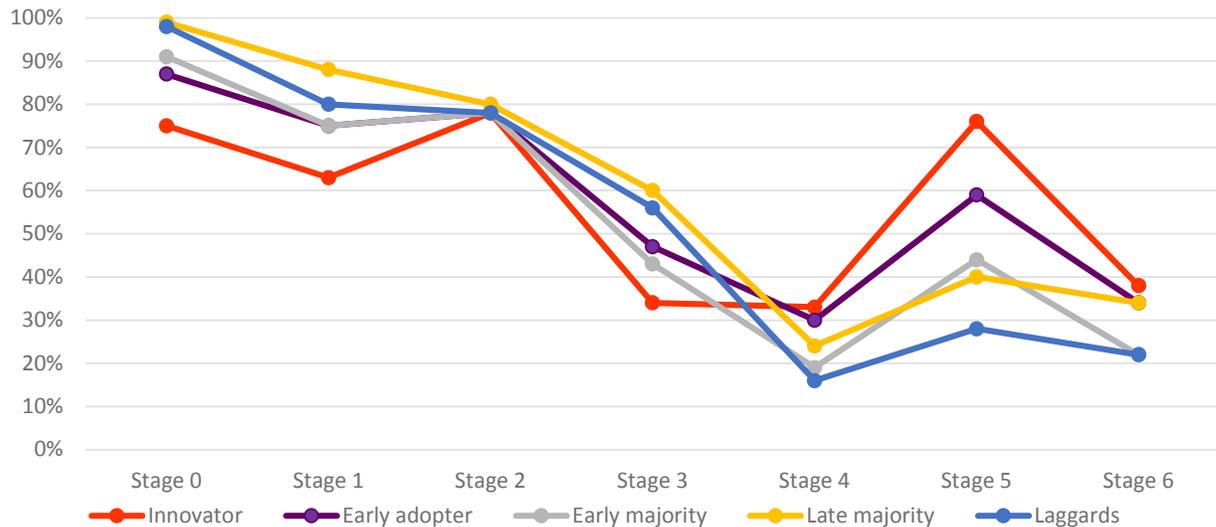

Figure 2: Stages of Concern by Categories of Adopters

2.1　Culture and Context

The concerns school librarians have about the implementation of digital textbooks in Florida and South Korea provide an opportunity to study this innovation in a cross-cultural context. Currently, preliminary interview data is being gathered from South Korean school librarians leading up to a dissertation study comparing CBAM results from both countries. There are cultural similarities and differences that will make for interesting analysis. In both countries the governments have issued a mandate but have not provided supports either financially or via professional development for schools to transition to digital textbooks. In South Korea, there are currently pilot sites being studied where in Florida there are not. In the U.S., school librarians are considered equal to teachers in schools whereas in South Korea school librarians are not on the same level as teachers but instead are considered support personnel. In both cultures there is a tradition of respect for the print book, but it stronger in South Korea. Before the post-liberation education of the early 1990s, Korean school culture was rooted in Confucianism, which has a decisive effect on the Korean culture. Due to this tradition, Korea has maintained a national curriculum with uniform standards (So, Kim, & Lee, 2012) which is only now being implemented in the U.S. visà-vis the Common Core Standards. In order to analyze culture and context, which influence individual school librarian's concerns about digital textbook implementations, Boyd (1992)'s conceptual framework of school ecology and school culture will be applied.

　　　　The next few years will be important ones for school librarians to identify their roles for digital textbook implementation. While preparing for these new types of textbooks, school librarians may have various concerns. Along with them, evaluating their perceptions in order for educational policy makers and school administrators to identify areas requiring further attention and resources in terms of school libraries will also be needed. These concerns can be molded into strategies for successful implementation. CBAM can be used as an initial step to study this early phase and also in subsequent years as the digital textbooks are actually employed and how concerns may change. In the long run, conducting chronological research to see how school librarians' concerns over digital textbooks have changed will help to identify the patterns of how school librarians adopt the innovation and provide more effective ways to serve the changes.

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