SCHOOL LIBRARY MEDIA SPECIALISTS’ PERCEPTIONS OF THEIR
LEVEL OF ENDORSEMENT AND IMPLEMENTATION OF THE
2007 STANDARDS FOR THE 21ST-CENTURY LEARNER

by

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A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Education
in the Department of Educational Leadership,
Policy, and Technology Studies
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2009
ABSTRACT

School library media specialists were surveyed to determine their perception of the level of endorsement that school library media specialists place on the *AASL’s Standards for the 21st-Century Learner* (ALA, 2007) and their perception of how much they implement the standards into their library media programs. An online survey was used to gather the data from 305 current school library media specialists in the state of Georgia. The relationship of these perceptions was studied to determine whether the level of endorsement was the same as the level of implementation for each of the nine beliefs, four standards, and each item in the four strands for each standard. The relationship between the level of endorsement of the beliefs and the standards was studied to determine whether this level was the same for the beliefs and the standards. Also studied were the relationships between the level of implementation of the beliefs and standards to determine whether each was perceived as implemented at the same level. The demographic data collected about each respondent included years of service as a school library media specialist, years of prior teaching experience, school level (elementary, middle, or high), and membership in school library organizations (state or national). Each item in the four strands of the four standards was studied to see whether there was a relationship between the overlying standard and strands, which consist of skills, dispositions in action, responsibilities, and self-assessment. The data were analyzed using nonparametric statistical methods. The level of endorsement was found to be significantly higher than the level of implementation for almost all of the beliefs, standards, and strands found in *AASL’s Standards for the 21st-Century Learner*. The significant differences
found in analysis of the responses from the whole group and the demographic groups are discussed and recommendations are given.
DEDICATION

This dissertation is dedicated to my daughters (Camellia and Miranda) and to my parents for their support, encouragement, and inspiration throughout this demanding process. The importance of education has always been emphasized in my family. Since I have now reached one of my final educational goals, I hope to continue this tradition through supporting, encouraging, and inspiring my daughters in their educational aspirations.
ACKNOWLEDGMENTS

This dissertation represents an aspiration in my life that would not have been possible without the support of many individuals. I would like to thank the members of my committee, Dr. Natalie Adams, Dr. Gordon Coleman, Dr. John Dantzler, Dr. Douglas McKnight, and Dr. Jane Newman, for their support and encouragement during this demanding process. I would like to especially thank Dr. John Dantzler for his assistance with the statistical portion of the dissertation. Thank you to Dr. Gordon Coleman for his expertise in the school library media field and for sharing his dissertation on a previous version of the standards. I would like to thank Dr. Douglas McKnight for serving as the chairperson for my committee. A special thank you to Sherri Edwards, she has worked many hours to proofread and format my dissertation in APA style and remained a calming force as the deadlines approached much too fast.

I would like to acknowledge the support and encouragement from family and friends. You are too numerous to list, but you know who you are. Thanks to each and every one of you for your support and encouragement throughout the entire doctoral process.

I also have a great deal of appreciation to the school library professionals who took the time to respond to the survey. It is the reward that you provide for students each and every day in your work as the leader of the school library media programs that makes this project a meaningful and worthwhile endeavor. Thank you for your service as a school library media specialist.
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CHAPTER I
INTRODUCTION TO THE PROBLEM

Introduction

The purpose of this study is to examine the perceptions of current library media specialists in the level of their endorsement and implementation of the newest school library standards. The American Association of School Librarians (AASL), a division of the American Library Association (ALA), published the Standards for the 21st-Century Learner in 2007. The library media specialists have had a couple of years to assimilate and begin using these standards in their programs at the school level.

The school library media program has become an accepted part of the public school system in the United States. A school library media center is found in the majority of public schools. As the professional in charge of the media center, the library media specialist has become an integral part of most of these school faculties. The school library media program is also one of the most changed areas of the public education system, with the constant introduction of new informational technology and materials. The standards have reflected these changes in each revision. The standards on which current library media programs are based have a long and storied past.

Historically, school library standards have been an important guide to these school library media programs. Since first published in 1920, school library standards
have been established by national organizations to guide school library media programs. The most recent version of these school library standards, *Standards for the 21st-Century Learner* (AASL, 2007) was followed by companion publications *Standards for the 21st-Century Learner in Action* (AASL, 2009) and *Empowering Learners: Guidelines for School Library Media Programs* (AASL, 2009). *Learning for Life* (AASL, 2008) is the national plan for the implementation of *Standards for the 21st-Century Learner* and *Empowering Learners: Guidelines for School Library Media Programs*. The revision of the standards is on an approximately 10-year cycle as evidenced by the previous two versions of the standards and guidelines. *Information Power: Guidelines for School Library Media Programs* was published by AASL in 1988 and *Information Power: Building Partnerships for Learning* was published in 1998.

*Information Power* (AASL, 1998) has been widely accepted by the educational community as the guiding principles for the school library program. Previous interpretations of the school library standards were formed with input from other organizations. The current library standards were written and approved by committees established solely by AASL, a division of the ALA. One of the questions raised about the current standards is whether or not this version of the school library standards is perceived by the building-level school library media specialist to reflect the reality of the daily library media program. Full endorsement of the current school library standards as the guiding principles for the school library media program would be a major milestone for the continued vitality of the school library media program in the public schools. Research into the level of endorsement and level of implementation that the school library media specialists have with the current library standards is a significant area of study. Coleman (1982) studied the 1975 version of the school library standards in order to determine the degree
practitioners agree with and implement the standards. The Standards for the 21st-Century Learner (AASL, 2007) has not been systematically studied by independent researchers and is the focus of this study. The endorsement and implementation of the standards by library media specialists is a major contributing factor to whether or not the current version of the school library standards will be considered successful. In order to understand the emphasis placed on this version of the standards, the historical progression of the evolution of the previous versions of the school library standards is important.

Even though school library professionals have worked with other educational organizations to produce the school library standards, they have all been published by ALA, the national library organization established in 1876 (Pond, 1982). AASL is one of the largest divisions of the ALA. Today the AASL is the most significant national organization serving school librarians. AASL also has roots in the National Education Association (NEA) and the National Council of Teachers of English (NCTE). In 1876, only 826 secondary school libraries existed, but by 1912 this number had risen exponentially to 10,329 secondary school libraries (Pond, 1982). Morris (1992) says that during this time the school library usually consisted of a single locked bookcase, which was often housed in the principal’s office. She described how a teacher, most often an English teacher, was usually assigned the duties of school librarian in name only. Not until 1900 was a full-time, school library trained professional assigned to a public secondary school (Morris).

In the early 1900s, the high school library movement, the reorganization of secondary education, and the restructuring of English programs in secondary schools led to the adoption of the first library standards in 1918. This first version was called the Certain Standards for the chair of the committee and was almost entirely quantitative in nature. Schools used them to
determine an adequate number of books and other materials that should be housed in the school’s library. The importance of these first standards is the increase in quantity and quality of school library collections. ALA published this first version of the school library standards in 1920.

One of the basic purposes of a professional organization is to propose and publicize standards to protect its stakeholders. AASL and its predecessors in ALA have a long history of being involved with the development and adoption of school library standards. Even though the Certain Standards had been developed by the Joint Committee of the NEA and North Central Association of Colleges and Secondary Schools, these standards were based on recommendations by prominent librarians connected with three national organizations: NCTE, NEA and ALA. The Elementary School Library Standards that followed in 1925 were developed by a joint committee from NEA and ALA. These standards were also published by ALA. School library standards were not again formally addressed until after World War II.

The way libraries were thought of in the schools was revolutionized with the release of the 1945 standards. Leaders from the library and audiovisual fields wanted to redefine the library as a full service media center in each school staffed by a trained professional who oversaw a wide variety of print, audiovisual material, and equipment. At first some parallel development occurred with libraries containing the print material and with audiovisual centers containing the audiovisual material and equipment. Influential leaders encouraged all the items to be housed together with an appropriately trained professional to handle the entire spectrum of media services (Loertscher, 2000). The standards published in 1945 as part of the ALA Postwar Planning Committee were deemed adequate for almost a decade. Pond (1982) suggests that there are four most significant issues during the developmental years of school library programs. First, they became an accepted part of the school. Second, they were administered by a professional.
Third, they now housed both books and audiovisual materials. The fourth, and possibly the most important, issue included in the standards was the further expansion of the instructional role of the school librarian. The 1945 standards were not formally revised again until the 1960s.

One of the greatest periods for the growth of the school library in public schools was set in motion in 1960 with release of the *Standards for School Library Programs* which were developed by AASL and published by ALA. AASL (1960), with the cooperation of 19 other professional associations, developed these influential standards which helped to expand state and local standards. These standards reinforced the importance that successful school library programs are the responsibility of the local school board, school administrators, and various kinds of supervisory personnel. Morris (1992) points out the specific quantitative standards for staffing, materials, and for the first time audiovisual materials and equipment were contained in this version of the standards. She also describes an unprecedented public relations push to get these standards into the hands of the prominent members of the school community, including boards of education, principals, along with the well-placed publication of a multitude of articles in academic journals and general interest magazines. This public relations activity led to an increased flow of money and support from public and private sources. The 1960 standards helped move school library media programs toward more widespread acceptance and integration into the public schools. The next version of the standards was not as widely accepted, but did add to the reclassification of the school library to the media center.

The move away from the name librarian to media specialist began with the publication of the 1969 standards (Koch, 1976). The inclusion of the national audiovisual organization in the writing of the 1969 standards proved to be very significant in the move from the label of library to media center and from librarian to media specialist. The word library was replaced with media
throughout the entire document. The 1969 standards were not as widely accepted as the previous standards because the chaotic changes in world events surrounding Vietnam led to the lack of a concentrated public relations effort like the one associated with the 1960 standards. The next version of the standards further integrated the name media in place of library throughout the entire document.

In 1975 the standards or guidelines, *Media Programs: District and School*, were published in cooperation with AASL and the Association for Educational and Communication Technology (AECT). A joint committee of library and instructional technology professionals again developed this version of the standards and guidelines. This document focused on the interrelationship of the individual school and district library media programs with focus on the learner and with emphasis on the program rather than materials. The 1975 standards and guidelines focused more on the qualitative aspects of the school library media program over the quantitative aspects, but still included national guidelines for the recommended number of professional staff and the quantity of print and non-print materials that should be contained in each school’s collection (AASL & AECT, 1975). Coleman’s (1982) research found that library media specialists in Virginia did not perceive *Media Programs: District and School* (1975) as adequately addressing their increased instructional role and that this version of the standards was filled with the unnecessary use of technical jargon. The next version of the standards did try to address some of Coleman’s findings.

In 1988, AASL and AECT jointly released *Information Power: Guidelines for School Library Media Programs*; this interpretation of the standards focuses on the library media specialist’s responsibility in establishing partnerships with teachers and initiating the planning process. The two major thrusts of this document are defining the roles of the library media
specialist and redefining the mission of the school library media program in relation to the physical and intellectual access to information resources utilizing the newest technology. Another noteworthy revision is the reappearance of library in the terminology used in this version. Library media center and library media specialist have become and continue to be the preferred terms (Midland, 2008). The majority of the quantitative standards included with previous standards are missing from this version; the only quantitative statistics contained in this version are for illustrative purposes (AASL & AECT, 1988). Pickard (1990) determined that a definite difference between the perceived instructional role of the library media specialist and the instructional role that was depicted in the standards existed. Jones (1997) noticed the same difference remained between the instructional role espoused in the standards and the reality of the lack of an instructional role experienced by building-level library media specialists almost a decade after Information Power: Guidelines for School Library Media Programs was published. The next version of the standards was released in 1998.

During this time period Keith Curry Lance began his seminal research, which studied how the roles of the library media specialists, as outlined in the standards, affected achievement outcomes of students. To date there have been many studies connecting the library media program with achievement outcomes for students. The primary reason for reviewing these studies will be to examine the roles of the library media specialists as they are delineated in the standards.

The 1998 publication of Information Power: Building Partnerships for Learning (AASL) was another collaborative effort between AASL and AECT. This version included seven chapters: the vision of the library media program; the information literacy standards for student learning; collaboration, leadership, and technology; learning and teaching; information access
and delivery; program administration; and connections to the learning community. Information literacy, understanding how to access and use information, took center stage of this standards and guidelines manual. The standards were published as a separate volume along with chapter one entitled *Information Literacy Standards for Student Learning*. Shelton (2002) finds that library media specialists perceive their roles to align closely with the standards as they are stated in *Information Power* (1998). The defined roles of the library media specialist in the 1998 standards are teacher, instructional partner, information specialist, and program administrator. The 2007 version of the standards is dramatically different in content and style.

The 2007 *Standards for the 21st-Century Learner* are a culmination of all the preceding school library standards and guidelines. The influence of all the educational organizations that have contributed to the school library standards and guidelines can be found throughout this document. The emphasis has moved from the roles of the library media specialist to student or learner-centered beliefs and standards.

For standards to be effective, they must be accepted by the professionals charged with implementing them during the daily routine. The 2007 version of the school library standards have evolved into a drastically different document from the first version in 1920, which was in reality a quantitative list of items that should be found in the collection of a school library. The library media specialist’s main role has evolved into a professional instructional role integrated into the educational process. Gone are the quantitative lists of materials, replaced with qualitative student-centered beliefs and standards. If these new standards are to be implemented fully by the educational community, then the library media specialists should endorse and implement them as the underlying beliefs and standards of their profession. Like Coleman’s (1982) study of the 1975 standards, this study utilized a survey to determine the level of endorsement and
implementation of the 2007 *Standards for the 21st-Century Learner* as perceived by the library media specialists. The purpose of this study is to examine library media specialists’ perceptions of their endorsement and implementation of the 2007 school library standards.

**Statement of the Problem**

For the 2007 *Standards for the 21st-Century Learner* to be considered effective, library media specialists should endorse these beliefs and standards and implement them in their programs. Library media centers are in over 96% of public schools with almost 80% having a certified library media specialist on staff (Tab, 2004). Library media specialists have taken on an increased instructional role in the education of students as demonstrated from the evolution of the standards. The standards have shown this movement as the library media specialist has grown from the passive “keeper of the books” into an active instructional leader who collaborates with students, teachers, and administrators to increase student achievement. As the new standards have developed further, library media specialists have appropriated the role of teacher of information literacy skills. The library media center is the largest classroom in the school in which every member of the learning community has access to instructional materials and resources. The 2007 library standards emphasize the importance of the library media program to the educational curriculum of the total school, but to be considered successful library media specialists must endorse the beliefs and standards as appropriate to their profession. The perception that the standards are being implemented is another indication that the 2007 *Standards for the 21st-Century Learner* have been endorsed by the profession. This research will determine the level of endorsement and implementation of the 2007 *Standards for the 21st-Century Learner* as perceived by the school library media specialists.
Significance of the Problem

According to the new standards, the school library media center program is supposed to play an integral part in the educational progress. The standards have historically been written by a small group of influential people selected or appointed by a national organization. The previous school library standards have generally been accepted by the educational community, but do the library media specialists in the field have a clear understanding of what the standards are and how the implementation of these standards will benefit the students, teachers, and others in the learning community? This research sought to find out library media specialists’ perceptions of their endorsement of the standards and if they were actually implementing these new standards. This study will add to the ongoing collection of research on the importance of school library programs and the standards on which they are based.

Purpose

The purpose of this research project is to study how the Standards for the 21st-Century Learner (AASL, 2007) are perceived by building-level library media specialists. The standards are based on nine belief areas which include reading, inquiry, ethical behavior, technology skills, equitable access, information literacy, thinking skills, social context, and learning skills. The four standards are as follows: Learners use skills, resources, and tools to (a) inquire, think critically, and gain knowledge; (b) draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge; (c) share knowledge and participate ethically and productively as members of our democratic society; and (d) pursue personal and aesthetic growth.
The standards are broken down into four strands that include skills, dispositions in action, responsibilities, and self-assessment strategies. Each of the strands has its own indicators. Each of these areas is part of the survey used in this research. School library media specialists were surveyed on their perceptions of their endorsement level of the standards and their implementation level of the new standards into their library media programs.

Research Questions

1. To what extent do library media specialists endorse the current national school library standards as appropriate to their perception of the profession?

2. To what degree do library media specialists perceive that the national standards are implemented in their respective schools?

3. How do the perceptions of the library media specialists’ level of endorsement of the standards compare with the perceptions as to their degree of implementation?

Definitions of Terms

*Endorsement*--the school library media specialist agrees with the statement as part of a successful school library media program.

*Implementation*--the school library media specialist actively finds and uses strategies that address the beliefs and standards in their school library media program.

*Quantitative Standard*--the standard that includes a specified number of an item, usually in reference to materials, staff, area, etc.

*Qualitative Standard*--the standard that does not include a quantifiable item, but more of an objective statement.
School library media center--a collection of materials, print and non-print, for the use of students and teachers in a specific school that is staffed by a professional and funded by the local board of education.

School library media program--the program overseen by a trained professional and operated out of the school library media center.

School library media specialist--the professional with specialized training who oversees the school library media program.

Acronyms

American Association of School Librarians (AASL)--A division of the American Library Association (ALA)
American Library Association (ALA)
Association for Educational Communications and Technology (AECT)--formerly NEA’s Department of Audiovisual Instruction (DAVI)
Department of Audiovisual Instruction (DAVI)
National Council Teachers of English (NCTE)
National Education Association (NEA)

Limitations

The limitations of this research study may be that the potential number of survey respondents will affect the generalizations that can be made to the perceptions of the library media specialists on the acceptance and implementation of the 2007 standards from across the United States. This research focused on one state (Georgia) that had at least one library media
specialist in every public elementary, middle, and high school. This staffing is not the case in every state, so generalizations, especially at the elementary school level, will be difficult. Other limiting factors included the number of items participants were asked to respond to might be considered arduous since each standard had four strands with multiple indicators. Using a web-based survey limited the ability to monitor the participants though it did provide for ease of participation.

Assumptions

Researchers assume that national organizations represent the standards for school library media programs. The publication of Information Power in 1988 and 1998 by AASL and AECT was the culmination of the work of professionals from across the United States. The 2007 school library media standards were developed by a committee appointed by AASL and published by ALA. How well these standards describe the perceived acceptance level of library media specialists currently in the field and how they perceive the level of implementation is an area that this research attempted to address. It was assumed that the perceptions held by the school library media specialist can be identified. It was assumed that the participants answered honestly and were representative of the target audience.

Data Collection

The data collection consisted of an online survey completed by public school library media specialists at the elementary, middle, and high school level. The online survey was available for a 3-month period with bi-weekly reminders sent to the listserv. The survey was promoted by using a statewide listserv, which includes library media specialists from every school system in
the state. The goal was for 330 completed surveys to represent the more than 2,300 school library media specialists in Georgia. A total of 305 usable surveys were acquired from a pool of more than 400 returned surveys.

Organization of the Study

This study is presented as a dissertation in five chapters. The research topic, the significance and purpose of the study, and the research questions are introduced in Chapter I. Chapter II contains a review of the literature deemed relevant to the subject of this inquiry. Chapter III describes the research methodology used to conduct the study. The findings from the study are presented in chapter IV. Chapter V presents a summary of the research, implications, and recommendations for further research.
CHAPTER II
REVIEW OF THE LITERATURE

Introduction

The literature review for this study is divided into three sections. In the first section, an effort is made to trace the evolution of the modern school library program by reviewing the history of the standards. The second section contains an analysis of the 1988 and 1998 versions of the school library standards, which were published as *Information Power*. Included in this section are summaries of major developments in the school library field. The research begun by Keith Curry Lance on the impact of school library media programs on student achievement and the acceptance of library media as an area for National Board Certification are both considered milestones in the library media profession. The third section contains an analysis of the 2007 *AASL-Standards for the 21st Century Learner* and the limited research pertaining to the newest standards.

Even though the first national school library standards did not begin to emerge until the early 20th century, libraries and schools have been inextricably linked. Libraries have been part of education systems since ancient times. Some of the first librarians from ancient history were thought to have first been teachers (Casson, 2001). As early as the 1740s, Benjamin Franklin demonstrated the value of the library to education by including one in his plans for his proposed public-supported academy (Koch, 1976). Whether the library was considered a shelf or box of books locked away in the principal’s office or a separate classroom overseen by a teacher with librarian duties, the origins of the modern day library media center can be traced back to the
beginning of public education in the United States. Even with the published school library standards in 1920, it was not until after World War II that a concerted effort was made to include a library in every school with a comprehensive collection and a dedicated library professional to oversee the administration of this school library media center (Loertscher, 2000). The study of the historical perspective of the library as a place in the school is important to understand how the roles of the library media specialist and the school library standards have evolved from the version published in 1920 to the current version.

As information technology has changed, school library media centers have gone through one of the most significant changes in the world of education. The national organizations have attempted to produce and promote standards to keep pace in reflecting the changing educational landscape. Card catalogs and reference books have given way to online databases. As the path to finding information has dramatically changed, the school library media programs have continued to adapt to the ever shifting educational environment. To keep up with these changes, the professional organizations have developed standards to help the profession as well as the education community know what should be expected of the school library media program. The essential ingredients for a successful school library program have evolved to include competent staff, appropriate materials, and adequate facilities. The standards have developed from quantitative recommendations of the number of books and space in the school to qualitative life-long learning skills that students should acquire from the school library media program.

School library media collections have made many adaptations and changes over the years as books have given way to new and different audiovisual materials that circulate among the students, faculty, and staff. Many school library media programs maintain a 24-hour presence by allowing information to be accessed from online research databases. The standards have
reflected these changes with the introduction of the roles of the library media specialist. As chalkboards have given way to active white boards, and overheads have given way to data projectors, and computers have become ubiquitous in the classroom, the library media specialist has taken on the added role of instructional technology specialist in addition to teacher of information literacy skills. Teaching information literacy skills to the students and guiding the faculty in the instruction of these life-long learning skills has become the focus of the national organizations in the last couple of decades. The national standards have attempted to keep pace with the explosion of information that is readily available to everyone by changing from quantifiable language to learner-centered beliefs and standards with an emphasis on actions and self-assessment. This shift is evident in the evolution of the school library standards to their current form.

Usually the modern school library is described as the library that developed in the 20th century and refers to a library that is under the control of a board of education in funding and staffing to be used exclusively by teachers and students of the school or school district. This differs from the understanding of the school library in the late 19th century as a collection of books that may or may not be housed at the school and was usually administered by the public libraries (Pond, 1982). School library media centers are in over 96% of public schools with almost 80% having a certified library media specialist on staff (Tab, 2004). The evolutionary growth of support for libraries in the public school system is evidenced by the progression of the school library standards from recommendations for the number of books in the collection to the current learner-based beliefs and standards.

As the certified professional in charge of the school library program, the library media specialist has become an integral part of the instructional process. Standards delineating the
changing roles of the library media specialist and the implementation of the program they
oversee have been the objective of the committees from the professional organizations since the
first school library standards were published to the most recent standards published in 2007.
Tracing the historical evolution of the school library standards from the 1920 version to the
current version is an important task in understanding how media specialists perceive the
endorsement and implementation of the standards which are supposed to guide and support the
school library media programs.

Historical Perspective

The school library media specialist is a relatively new profession which has experienced
exponential growth since the first school librarians began their careers in the early 20th century.
School library media programs and the professionals who oversee them have undergone a
tremendous change over the past half a century. Michie and Holton (2005) notice several
national trends from the 1953-1954 school year to the 1999-2000 school year in a U.S.
Department of Education report. Public schools consolidated from 129,000 schools to 84,000
schools, while the number of public school students grew from 27.7 million to 45.0 million.
Public schools with library media centers grew from 36% to 92% and with a librarian grew from
40% to 86%. The number of school library books per student grew from 3 books to 17 books,
and per student expenditures for school libraries, excluding salaries, increased from $6.00 to
$15.00 (Michie & Holton, 2005, p. v). Another U.S. Department of Education report shows that
during the 2005-2006 school year, 49.1 millions students were enrolled in public elementary and
secondary schools in the United States. Serving these public school students during the 2005-
2006 year were 54,068 certified library media specialists; this figures to about one library media
specialist for every 900 students (Sable & Garofano, 2007). When the first standards were published, roles for the library media specialist were not evident. The first standards dealt mainly with items that should be included in each school’s library.

From the organization of the first committee to discuss school library standards in the early 20th century, the American Library Association (ALA) has been a force in establishing and publishing all versions of the standards. The first school library standards were published in 1920 by ALA as a report entitled *Standard Library Organization and Equipment for Secondary Schools*. The American Library Association was established in 1876 and incorporated in 1879 (Pond, 1982). Melvil Dewey, developer of the Dewey Decimal Classification System which is still in use by libraries today, was instrumental in the establishment of the library movement in the United States. In 1876, he organized the first national library conference where ALA was born (Wiegand, 1996). Dewey believed that the public school and public library were equals in providing appropriate education to the public; therefore, he, along with John Cotton Dana, another early force in education, were involved in the initial stages of the National Education Association (NEA) and ALA joining forces to support the implementation of school libraries (Pond, 1982). The public library and the school library came from the same beginnings and have sometimes been at odds with each other, but the need for a collection of materials for the use of students and teachers administered by a professional located in the school building has become ingrained in the current public education climate (Wiegand, 2007). During this period of growth for the public library and public school system, there were differing views as to where the materials should be located and who should be in charge of the distribution and selection of these items. There were no published school library standards during the early formation of these
national organizations, but ALA has remained instrumental in publishing and promoting all of the standards from the very first until the most current version.

The number of school libraries grew from less than 1,000 to more than 10,000 during the time period the first standards were developed (Pond, 1982). From the beginning of library data collection by ALA in 1876 to 1912, there was large growth in the number of high schools with libraries. These libraries were limited to a small collection of books, and the English teacher was usually assigned the duties of school librarian. The first full-time school librarian was assigned to a public secondary school in 1900 (Morris, 1992). The need for national school library standards was recognized by an English teacher named C.C. Certain, along with his contemporaries who were involved at the national level with educational organizations including ALA, NEA, and NCTE.

**Certain School Library Standards 1920 and 1925**

In 1896, the Department of Secondary Education’s Library Committee, which was part of the NEA, was established through the efforts of Melvil Dewey and John Cotton Dana. One of the main activities of the NEA Library Department and the ALA Committee on Cooperation with NEA was the collection of data during the period of 1897-1910. These committees went through several changes and the data they collected was ultimately responsible for developing the first national standards for school libraries, which became known as the Certain Standards (Pond, 1982).

The intermingling of leaders from the national organizations led to a joint effort in the formation of several committees that produced guidelines and recommendations for the public school system. Between 1910 and 1920, the high school library movement, the reorganization of
secondary education, and the restructuring of English programs in the secondary schools were linked to one another through the intermingling of those serving on different committees developed by several national organizations. This inevitably led to the first published high school library standards in 1920 as part of the effort to improve the public school system. In 1911, the National Council of Teachers of English (NCTE) was established in part because of the concern for the English programs in the secondary schools. The NCTE was a former department of the NEA which gained independence as did a number of other organizations when their membership grew and their goals began to differentiate from the NEA. NCTE became the third national professional organization, along with ALA and NEA, to promote some of the goals of the school library movement (Morris, 1992). Charles C. Certain was chair of the NEA library committee in coordination with an accrediting agency which worked closely with committees from NCTE and ALA to develop and publish the high school library standards in 1920 and the elementary school library standards in 1925 (Bowie, 1986).

Two developments that led to the acceptance of school libraries as part of the basic equipment in the secondary high school were recommendations in reports by two NEA subcommittees in 1892-1883 and standards for accreditation of secondary schools by regional accrediting associations beginning with the North Central Association of Colleges and Secondary Schools in 1896 (Pond, 1982). Appointed by the National Council of Education of the NEA in 1892, the Committee of Ten was comprised of nine subcommittees of 10 members, each charged with investigating different aspects of education and reporting back to the main committee. The final report made recommendations on the scope and content of secondary school curriculum. Two subcommittees specifically mentioned school libraries. The subcommittee on history, civic government, and political economy noted that the curriculum and
methods described in their report required a school library. This subcommittee wanted students to not just rely on the textbook for information, but to have access to other reference books. The subcommittee on English recommended that high school courses required for admission to college include the reading of English literature masterpieces as well as reading books selected by teachers and the students themselves (Pond, 1982). These first standards were mainly guidelines for what instructional items should be included in the school library.

The other development occurring at about the same time was the creation of regional accrediting agencies in response to groups of colleges seeking to improve the quality of education in both secondary schools and colleges. At the first meeting of The North Central Association in 1896, three requirements were set to recognize a secondary school. The schools should have “sufficient equipment consisting of a library, suitable rooms, and a laboratory or laboratories” (Pond, 1982, p. 94). By 1901, the North Central Association had begun to formalize the standards for secondary school accreditation, and the school library became one of the areas for evaluation. With each revision of the standards in subsequent years a trend began to improve the school library facilities. Other regional accrediting agencies soon followed suit (Pond, 1982).

The conditions were right at the turn of the century for every secondary school to have its own library devoted to its own teachers and students. In 1899, James Van Sickle stated the purpose of the NEA Library Department as four items: (1) study of what was being done by teachers for the reading of children, (2) study of how librarians had helped with the reading of children, (3) improve teachers’ and librarians’ relations, and (4) determine the best books for children of different ages (Pond, 1982). Even though school libraries were beginning to appear in the American public secondary schools, trained school librarians were much slower to arrive on
the scene. By 1915, only 50 library school graduates had been appointed to school library posts in high schools (Pond).

Koch (1976) describes a report published in 1917 written by the Joint National Committee on English, committees from NEA and the NCTE, which recommended the reorganization of the course of study at the high school level. Included in this report were recommendations on the library and its equipment to support the teaching and the study of English. Outlined were the work of the school library, the forms of administration of the library, and the services of a trained librarian (Koch, 1976). These recommendations are considered to be the first attempt to establish national standards for school libraries. The Certain Standards would draw heavily from this section of the Joint National Committee on English report (Certain Committee, 1920).

C.C. Certain, a high school English Department chair from Auburn, Alabama, and later of Detroit, was appointed to chair a Library Committee under the auspices of the NEA’s Department of Secondary Education. The purposes of this committee were to investigate the conditions of high school libraries throughout the United States, disseminate this information to the school administrators, and to secure their aid in improving conditions. This committee conducted a series of surveys of high school libraries in various regions of the country and reported the findings at the NEA conference in 1916 (Pond, 1982). In 1918, the first national standards for high school libraries were approved by the NEA and the North Central Association, a regional accrediting agency. All three organizations, NEA, ALA, and NCTE, contributed committee work to the high school library movement. ALA endorsed and published the Certain Standards in 1920 (Pond, 1982).
In 1925, the Joint Committee on Elementary School Library Standards, also chaired by Certain, issued a companion report to the secondary school library standards (Certain Committee, 1925). This committee was composed of representatives from the NEA Department of Elementary School Principals and the School Librarian’s section of ALA (Koch, 1976). These school library standards were deemed to be adequate until the end of World War II. The perceptions of the library media specialists in their acceptance and implementation of the school library standards were not reported during this time, because the standards were quantitative in nature, so the studies from this period were focused on reporting the number of books per student and the amount of funds expended per student.

School Libraries for Today and Tomorrow: Functions and Standards--1945

A revolution in the way libraries were thought of in the schools coincided with the release of the 1945 standards. Leaders from the library and audiovisual fields wanted to move the thinking of the library as a warehouse or storage area for books into an information center in each school staffed by a trained professional and containing a wide variety of print and audiovisual material and equipment. At first there was some parallel development, with libraries containing the print material and audiovisual centers containing the audiovisual material and equipment. The influential leaders encouraged all the items to be housed together with an appropriately trained professional to handle the entire spectrum of media services (Loertscher, 2000). The standards reflect the inclusion of a variety of materials in the school library and this trend began the evolution toward the renaming of the school library as a media center.

In 1944, the ALA School Libraries section changed its name to the Association of School Librarians. In 1945, School Libraries for Today and Tomorrow: Functions and Standards was
published as one of the series of standards for libraries developed by the AASL subcommittee of the ALA Postwar Planning Committee. Mary Peacock Douglas, State Director of School Libraries for North Carolina, was an AASL member on the five-person ALA Postwar Planning Committee and chaired the committee that drafted the standards. The formulation and adoption of these standards required manipulating them through the many different levels and interest groups found in ALA at the time (Koch, 1976). The committee sought input from school librarians all over the country as well as support from national organizations, specifically the Joint Committee of the NEA and ALA. The statements formulated in these standards more clearly spelled out the role of the school librarian as a professional and partnerships with teachers in the support of the educational program of schools. The acceptance of these standards further acknowledged the separate professional identities of public and school librarians (Koch).

The standards published in 1945 as part of the ALA Postwar Planning Committee were considered sufficient for almost a decade (Koch, 1976). Frances Henne and others published *A Planning Guide for the High School Library* in 1951. This manual was for gathering data on all phases of the school library program including background information on the community, school, and library; school library activities and services; the use of the library; the library staff; the library collection; library facilities; the library budget; and plans for improvement (Henne, Ersted, & Lohrer, 1951). The most significant issues during this time were that school libraries became an accepted part of the school, that the school library was administered by a professional, audiovisual materials were housed in the school library, and the standards were developed further defining the teaching role of the school librarian (Pond, 1982). Statistics show during the 1953-1954 school year that there were 51,498 school librarians serving 40% of the 27,652,365 student population (Michie & Holton, 2005). Reports account for the increase in the
number of schools with a library professional, the number of materials including audiovisual per student and funds expended per student, but the perceptions of library media specialists on their acceptance and implementation of the school library standards were still not studied during this time.

Standards for School Libraries--1960

The 1960s are considered one of the peak eras for the growth of the school library in public schools, including the publication of two versions of the school library standards. In 1953, Frances Henne and Ruth Ersted, former AASL officers and University of Chicago faculty, were appointed as co-chairs of an ad-hoc committee by the AASL president to revise the 1945 standards. This committee, composed of representatives from 19 different organizations, began with high hopes of starting fresh, but ended up revising the 1945 standards. The committee, at first, decided to function in an advisory role to a paid research and writing staff that would start fresh with a new manuscript. The new manuscript would consist of the following: an introduction presenting the role of the library; the main text developing the characteristics of the school library in terms of outcomes and benefits; and an appendix providing statistical standards, which would be subject to more frequent revision. A collection of facts and case studies of best practices from a variety of school library scenarios would be used for illustrative purposes. After some financial negotiations and a reduced budget, the committee developed and wrote the chapters themselves. The final draft of Standards for School Libraries was finally completed in 1959 and published by ALA in 1960 (Koch, 1976). Rather than starting completely fresh as envisioned, these new standards built on the previous versions of the standards, the Certain Standards and the 1945 version. The Standards for School Libraries philosophy and objectives
came from the 1945 standards with the emphasis on school librarians working closely with teachers and students. As did its predecessors, the 1960 standards included quantitative recommendations for staff, facilities, collections, and budgets. These quantifiable guidelines were the most in demand (Koch).

During this same time, revisions were also being made to the *Evaluative Criteria of Secondary Schools* by the Cooperative Study of Secondary Schools, which included a section on school libraries. An AASL advisory committee was appointed to help with this task. Joint work sessions with the Department of Audiovisual Instruction (DAVI) of the NEA were established to develop the newly named Evaluative Criteria for Instructional Materials Services--Library and Audiovisual (Koch, 1976). This progressive trend provides more evidence for the evolution of the school library as a materials or media center that included both print and non-print items for instructional use by the educational community.

Even though the school library standards had been periodically developed with input from a variety of levels and geographical locations, implementation was another matter. Mary Gaver, AASL President and chair of the Standards Implementation Committee, wanted to make sure that the 1960 Standards were given a good chance of being implemented. She and her committee initiated a concerted public relations plan to communicate the new standards, which included a study guide, promotional materials, and articles placed in an array of educational journals and popular magazines. AASL provided grants to 14 state organizations for projects implementing the new standards. From these a kit was developed and implementation activities for the 1960 Standards were initiated in 41 states and the District of Columbia (Koch, 1976). This public relations effort was the first time an integrated implementation plan was used in the roll-out of the school library standards.
Koch (1976) describes a grant that was used to set up the School Library Development Project, which was charged with determining the gaps in library provisions by measuring the services and contributions of school library programs and to close the gap in public understanding of the value of a quality school library program. The School Library Development Project defined a quality program as one that is properly funded, staffed, and understood. Taxpayers, school boards, superintendents, school administrators, and teachers were seen as the most serious communication problems. The four activities the project advisory board were to focus on included leadership training at the national, state, and local level; consultant services to school library development groups; production and distribution of printed and audiovisual material to national, state, and local groups; and allocation of grant funds for selected projects in school library development that would produce measurable results (Koch).

In 1962, a grant from the Knapp Foundation to demonstrate the educational value of quality school library programs was the result from the publicity generated by the School Library Development Project. The foundation funded more than $1,000,000 for a 5-year period to implement a three-phase project to set up demonstration school library centers. Gaver was selected to continue her work in the implementation of the school library standards by serving as the chair of the Knapp School Libraries Project advisory committee (Koch, 1976).

Gaver and her committee decided the first objective of the project was to demonstrate the educational value of the school library program, services, and resources while fully meeting the national standards for school libraries. The second objective of the project was to promote the understanding and use of library resources among teachers and administrators by relating the demonstration situation to nearby teacher education programs. The third objective was to guide and encourage citizens from many communities in the development of their own library
programs. The fourth objective was to increase interest in school library programs through the dissemination of information including brochures, articles, filmstrips, and an award-winning film that was provided to many free of charge as well as aired several times on television in 1965. The Knapp Foundation considered the project to be a success and subsequently extended the grant by funding the School Library Manpower Project to study the requisite staffing of quality school library centers, develop educational programs for the requirements, and to recruit quality applicants for school library positions (Koch, 1976).

One of the most important outcomes of the 1960 school library standards is the increase in the visibility of the school library program. The 1960s ushered in a new era in the study of the school library program, but the perceptions of the school library media specialists on their endorsement and implementation of these standards was overlooked for the quantifiable reports on the number of items per student, number of students per school library professional, and the expenditure per student.

Standards for School Media Programs--1969

The change from the name librarian to media specialist began with the publication of the 1969 standards and proceeded with the change in 1972 of the main AASL publication from School Library Quarterly to School Media Quarterly (Koch, 1976). The inclusion of the national audiovisual organization in the writing of the 1969 standards proved to be very significant in the move from the label of school library to media center and school librarian to media specialist. Another organization that has roots in the NEA is the Association for Educational and Communication Technology (AECT) where it began as the Department of Audiovisual
Instruction (DAVI). In 1969, when NEA reorganized, DAVI became a national affiliate rather than a department; the name changed to AECT in 1970 (Koch, 1976).

In 1964, due to the rapid changes in educational concepts, curricula, organization and, especially, instructional technology, the school library standards were once again authorized for revision. Frances Henne, former AASL President and co-chair of the 1960 Standards revision, was once again named as the chair of the revisions committee. A grant was made with the purpose of revising the 1960 standards to reflect new educational philosophies, school organizational patterns, instructional methods to support curricular changes, educational programs for the multiple publics in the schools, and the impact of technological developments in education. The aim of this revision was to unify the purpose of the school library media program and further strengthen the teaching role of the library media specialist by combining the roles of the librarian, audiovisual specialist, as well as other media specialists. AASL and DAVI held a joint meeting and decided to co-author and publish the new standards for instructional media programs in the schools. The joint committee seemingly had no organized implementation strategy for the 1969 Standards for School Media Programs because of federal budget cutbacks threatening entire school library media programs. The mounting turmoil over the Vietnam War in the nation added to the lack of organized public relations strategies for the Standards for School Media Programs during this turbulent period (Koch, 1976). The most important advancement from the 1969 Standards was the integration of the instructional technology with the library into a unified school library media center. The perceptions of the school library media specialist in the endorsement and implementation of the standards continued to be overlooked while the quantitative reports continued to be generated.
In 1975, the standards or guidelines, *Media Programs: District and School*, were published in cooperation of AASL and AECT. Contained in this interpretation of the standards are both quantitative and qualitative aspects. The joint committee of school library and instructional technology professionals again developed this version of the standards and guidelines. This document focused on the interrelationship of the individual school and district library media programs with focus on the learner and emphasis on the program rather than materials. The emphasis on a systems approach with an extension of the 1969 media concept and flexibility were some of the main components of the 1975 guidelines (Coleman, 1982). The 1975 standards and guidelines focused on the qualitative aspects of the school library media program over the quantitative aspects, but there were still national guidelines for professional staff, print, and non-print materials contained in the collection (AASL & AECT, 1975).

The second joint publication through coordination of committees from AASL and the audiovisual division of NEA, which was now an independent organization known as the AECT, produced the 1975 standards and guidelines. The 1975 standards focused on four specific functions of the school library media program. The design function, consultation function, information function, and administration function were defined and expanded upon. An emphasis was placed on the quality of the user’s contact with the personnel, materials, and environment. AECT developed an evaluation process to go along with this version of the school library standards and guidelines, which reflected the user-orientation of the 1975 standards. The evaluation was of a formative rather than a summative nature and was designed to assess to what degree the library media program met the needs of its users (Coleman, 1982).
Because the building-level library media professionals are instrumental in developing and maintaining a quality school library media program, Coleman (1982) studied their perceptions as to the value and implementation of the 1975 standards and guidelines. He surveyed school library media professionals to determine their perception of the extent they valued the 1975 guiding principles in the development and maintenance of a quality school library media program. He also surveyed the school library media professionals to determine their perceptions of the degree to which they implemented these guidelines. The six demographic groups studied were number of years of prior teaching experience, years in the school library media profession, level of professional school library media training, professional membership, access to district-level library media leadership, and library media funding level. These groups were studied to determine whether relationships existed between these factors and the school library media professionals’ perceptions. An open-ended question related to the instructional role of these professionals was also posed.

Coleman (1982) found that the instructional role of the library media professional was neither valued nor implemented at a relative level, which might have been expected because of the emphasis placed on the teaching role of the library media specialist in the Media Programs: District and School document. The library media specialist who had prior teaching experience reported higher value ratings for the component areas of production, public information, program evaluation, and collections than those professionals without at least 1 year of teaching experience. Library media specialists who had Master’s level training reported higher value ratings for the components of planning, budget, purchasing, public information, and program evaluation than those with Bachelor’s level training. The library media specialists who were members of professional organizations reported value ratings significantly higher for the
component areas of personnel, planning, access and delivery systems, program evaluations, collections, and facilities than those who were non-members. No significant difference appeared in the value ratings of the library media specialists with varied levels of school library media experience. The library media specialists who reported they served under a district-level school library administrator had implementation ratings that were higher for the component areas of personnel, budget, purchasing, production, access and delivery systems, program evaluation, collections, and facilities than those without the district-level administrator. Coleman noted that the respondents were divided over whether or not they thought the guiding principles adequately reflected their instructional role in the school. This observation would indicate some uncertainty on the part of the library media specialists as to a clear understanding of their role in the instructional responsibility of the library media program. He also noted that respondents wrote unsolicited comments on the idealistic nature and the extensive reliance on technical jargon contained in the 1975 standards and guidelines. These complaints echoed similar criticisms that were voiced when *Media Programs: District and School* first appeared (Coleman). The 1975 standards made an obvious attempt to move away from the quantifiable items with an increased emphasis on the instructional role of the library media specialist rather than focusing on the number of books in the collection. A greater degree of integration of the fields of instructional technology and library science unified the school library media center. *Information Power* (1988) was to take these further as the school library media standards continued to evolve.

**Information Power: 1988 and 1998**

The first version of Information Power was published in 1988 by AASL, a division of ALA. According to Midland (2008), this version of *Information Power* guided library media
specialists in accommodating their programs with the integration of computers and digitized information. The increase in the amount of information available by computer refocused the library media specialists’ objectives from teaching students how to find information to teaching students how to use and present information more effectively. Also noteworthy was the revision in terminology where the word library once again became part of the professional vocabulary providing the designation of library media specialist and library media center. Midland notes,

The quantitative nature of past standards, which presented recommendations and measurements for numbers of books per student, shelving units, and other criteria, were replaced by qualitative guidelines that offered “illustrations” of the school library that prepared students with the necessary technology skills to function in the “information age.” (p. 1)

It was not until the introduction and widespread use of information from the Internet that the next version of Information Power was published. Midland (2008) likens the Internet to access of information as Gutenberg’s printing press was to the proliferation of books:

Just as in the 1400s the printing press enabled the availability of books beyond the walls of monasteries, so did the Internet increase the flow of written and graphic information. The explosion of information and easy access to it in several formats has made exhaustive research on a topic a task that requires learning skills focused on the use of information rather than on merely finding it. (p. 1)

The 1998 version of Information Power was written to provide school library media specialists the standards and guidelines to assist students with understanding and using the new information landscape in a productive way. The following section will take a closer look at the two versions of Information Power. Also included in this section are two influential occurrences in the school library field based on these publications and further emphasizing the roles of the library media specialist as teacher and collaborative instructional partner. The research, which began with a study done in Colorado and replicated in at least 16 other states, started a movement to try to demonstrate that school library media programs did have an impact on student achievement in a
time where academic accountability is crucial to maintain educational relevance (School Libraries Work!, 2006). The other significant development during this time was the acceptance by the National Board for Professional Teaching Standards of library media as an area for National Board Teacher Certification (NBPTS, 2001). Both of these developments were directly based on the roles, standards, and guidelines as outlined in each version of Information Power.

*Information Power: Guidelines for School Library Media Programs--1988*

The 1988 interpretation of the school library standards began in the spring of 1983 when AASL and AECT appointed members to the Standards Writing Committee. After 2 years of work, the original committee was reorganized into a four-person writing team with an auxiliary reaction panel. The first draft was submitted in April 1987. Two additional drafts were completed during the AECT Leadership Conference in early August 1987. Additional review and subsequent revision during the fall of 1987 were followed by final document being approved by AASL and AECT boards in January 1988 (AASL & AECT, 1988).

The primary focus of the 1988 standards is the building-level library media specialist. They are responsible for the design and delivery of effective library media programs. Once again these guidelines emphasize a planning philosophy with attention paid to the specific and unique needs of the school curriculum determining the type and level of the library media program offered. The 1988 guidelines are based on the premise that teachers, administrators, and library media specialists form a partnership that plans together to design and implement a program to best match the instructional needs of the school. The specific recommendations for staffing, number of books, and square footage take a backseat and are only included when professional consensus and research provide a solid basis of support. The document does include quantitative
data for illustrative purposes provided by U.S. Department of Education research for the 1984-1985 school year (AASL & AECT, 1988).

*Information Power: Guidelines for School Library Media Programs* (AASL & AECT, 1988) begins with the statement of the mission:

The mission of the library media program is to ensure that students and staff are effective users of ideas and information. This mission is accomplished:

- by providing intellectual and physical access to materials in all formats
- by providing instruction to foster competence and stimulate interest in reading, viewing, and using information and ideas
- by working with other educators to design learning strategies to meet the needs of individual students. (AASL & AECT, p. 1)

The following lists the guidelines for school library media program development:

- The school library media program plays a critical role in teaching and learning activities. The library media program is fully integrated into the curriculum, serving the school’s educational goals and objectives by providing access to information and ideas for the entire school community.
- The principal, the library media specialist, teachers, and students work together to ensure that the program contributes fully to the educational process in the school.
- The library media program offers both traditional resources and new technologies as teaching and learning tools.
- The program is housed in a school library media center that provides adequate and appropriate space for all the resources and activities of the program.
- The library media center is convenient, comfortable and aesthetically inviting. (AASL & AECT, 1988, p. 24)

In the 1988 guidelines, the three roles the library media specialist serves are information specialist, teacher, and instructional consultant. Through these roles the library media specialist provides

- access to information and ideas by assisting students and staff in identifying information resources and in interpreting and communicating intellectual content.
- formal and informal instruction in information skills, the production of materials, and the use of information and instructional technologies.
- recommendations for instructional planning to individual teachers as well as assistance in schoolwide planning of curricular and instructional activities. (AASL & AECT, 1988, p. 26)
With *Information Power* (1988), an effort to provide evidence of the school library media specialists’ impact on student achievement began in earnest. One of the first studies to provide evidence of the positive impact of school library media centers on student achievement occurred in 221 Colorado public schools during the 1988-1989 school year. The study emphasized the importance of the library media specialists’ instructional role. This study demonstrated that schools with better funded library media centers have higher academic achievement and the students where the library media specialist participated in the instructional process are higher academic achievers. The study rules out the socioeconomic and educational attainment of parents that might have affected the outcomes (Lance, Welborn, & Hamilton-Pennell, 1993). Lance (1994), lead researcher, further explained this study by discussing the importance of the instructional role of the library media specialist and the significant relationship it had in predicting test performance. In his findings, he reports that the students whose library media specialist played an integral role in the instructional process tended to achieve higher test scores.

During the 1990-1991 school year, there were 79,885 elementary and secondary public schools in the United States. Of these schools 96% had a school library media center, while only 79% were served by a professionally trained library media specialist (Michie & Holton, 2005). As the millennium drew to a close, profound changes in society and technology resulted in massive changes in education including the school library media program. In a collaborative effort AASL and AECT once again set about to revise the school library media program standards and guidelines. *Information Power* (1988) provides an extensive appendix that includes a report on a survey of school library media centers with reported data on staff, budget, collection, microcomputers, and facilities. This data is used to give guidelines on staffing, collection size, and facilities space. The 1998 edition of *Information Power* developed
information literacy standards for student learning and included levels of proficiency, standards in action, and examples of content-area standards in support of the standards.

*Information Power: Building Partnerships for Learning--1998*

The mission in the 1998 edition of *Information Power* remained the same but expanded on the concept of the standards for student learning and included a separate companion volume entitled *Information Literacy Standards for Student Learning*, which includes just the standards along with an introductory chapter. The supplemental standards volume is meant to be distributed by library media specialists to their partners in the educational community in order to create the opportunity for these participants to take a more active role in the school library media program as outlined in the standards (AASL & AECT, 1998).

The mission and goals of the school library media program remained the same as the 1988 *Information Power* version. Chapter Two of *Information Power* (1998) presents the “Information Literacy Standards for Student Learning.” The standards and indicators for each standard include supporting material that outlines the levels of proficiency, the standards in action, and examples of content-area standards.

The Nine Information Literacy Standards for Student Learning

*Information Literacy*

Standard 1: The student who is information literate accesses information efficiently and effectively.

Standard 2: The student who is information literate evaluates information critically and competently.

Standard 3: The student who is information literate uses information accurately and creatively.

*Independent Learning*

Standard 4: The student who is an independent learner is information literate and pursues information related to personal interests.

Standard 5: The student who is an independent learner is information literate and appreciates literature and other creative expressions of information.
Standard 6: The student who is an independent learner is information literate and strives for excellence in information seeking and knowledge generation.

Social Responsibility

Standard 7: The student who contributes positively to the learning community and to society is information literate and recognizes the importance of information to a democratic society.

Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

Standard 9: The student who contributes positively to the learning community and to society is information literate and participates effectively in groups to pursue and generate information. (AASL & AECT, pp. 8-9)

In the 1998 version of the standards, the roles of the library media specialist were again defined with the ones with instructional components receiving the most emphasis in order to more clearly delineate the roles to assist students with acquiring the Information Literacy Standards. These roles have evolved over the years to the ones as they are described in Information Power (AASL & AECT, 1998). The four roles are teacher, instructional partner, information specialist, and program administrator. In the 1988 edition of Information Power, there were only three roles defined: information specialist, teacher, and instructional consultant. In a 1994 study, the most prominent role of the library media specialist was found to be information specialist followed by teacher and instructional consultant in that order; all of the roles were reported to have been performed by all participants (McIntosh, 1994). In a study of the roles of the library media specialist based on the perceptions of teachers, administrators, and library media specialists, it was found the library media specialist regularly performed the roles of information specialist and teacher, and that the instructional consultant role was performed in a causal rather than systematic way (DeGroff, 1997). The increased importance of the library media specialists’ role in the instructional process continued to grow with the new edition of Information Power (1998).
The role of teacher and instructional partner in the 1998 edition of *Information Power* is emphasized much more. The role of the program administrator role was added to cover the administrative responsibilities of the school library program. Collaboration with others in the instructional process is highlighted with the addition of the role of instructional partner. Shelton (2002) found library media specialists perceive the changing roles as described in *Information Power* (1998) as being essential to the instructional process and were relating these perceptions to plans of performance. He determined that the perception of the role the library media specialist held to be most important is the teacher of information literacy. The roles that were perceived by the library media specialist to be less important were the roles as the instructional partner and the curriculum specialist.

A study found that library media specialists perceive all of the roles as described in the 1988 and 1998 editions of *Information Power* to be more important than they are actually able to implement in their practices, with information specialist being the most important followed by the roles of program administrator, teacher, instructional partner, and instructional consultant (McCraken, 2000). The emphasis on the teaching role along with collaboration in the instructional process for the library media specialist was a growing response in the educational field as demonstrated by the reaction to ongoing changes in education. A companion rubric entitled, “School Library Media Program Assessment,” was developed from the 1998 standards and has been used to evaluate the success of the standards (AASL, 1999).

Emphasis on the quality of the nation’s teachers began to take shape in the late 1980s. With the move towards student-based standards, the library media organizations wanted to be considered more a part of the instructional realm of education. The National Board for Professional Teaching Standards (NBPTS, 2001) was established in 1987 after the release of the

1. Teachers are committed to students and their learning.
2. Teachers know the subjects they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and monitoring student learning.
4. Teachers think systematically about their practice and learn from experience.
5. Teachers are members of learning communities. (NBPTS, 2001, pp. vi-vii)

Many in the school library media field believed that the instructional role of school library media specialists was of the utmost importance and wanted to be able to obtain the same national recognition of their teaching skills. In 1998, a NBPTS committee began the work to develop outstanding professional teaching standards for library media specialists using the widely accepted *Information Power* as the basis for the national certification along with the five core propositions that had been adapted as the framework for the process. The first National Board Certified Teachers in library media were recognized in 2002. There are currently around 2,000 library media specialists with this accomplished designation in the United States (NBPTS, 2001). The inclusion of library media specialists in the National Board Certified Teacher process adds certain legitimacy to the emphasis on the teaching role of the library media specialist in the instructional process as described in the 1998 school library standards. The NBPTS Committee for Library Media used the 1998 version of *Information Power* as a basis for the National Board Certification process. The following is an excerpt of the overview of the NBPTS for Library Media:
Early Childhood through Young Adulthood/Library Media Overview

The Early Childhood through Young Adulthood/Library Media certificate is appropriate for Library Media specialists who teach students ages 3-18+ and who know the range of information literacy, instructional collaboration, and the integration of technology.

What Library Media Specialists Do

IV. Integrating Instruction
Accomplished library media specialists integrate information literacy through collaboration, planning, implementation, and assessment of learning.

V. Leading Innovation through the Library Media Program
Accomplished library media specialists lead in providing equitable access to and effective use of technologies and innovations.

VI. Administering the Library Media Program
Accomplished library media specialists plan, develop, implement, manage, and evaluate library media programs to ensure that students and staff use ideas and information effectively. (NBPTS, 2001, p. 5)

With the publication of Information Power, AASL (1988) and AECT (1998) have positioned the published roles and responsibilities of the library media specialist and the standards for learners so that the school library programs have a direct relation to the increase in student achievement. The NBPTS (2001) established professional teaching standards for the library media specialists as rigorous and research-based as all the other teaching subject areas. There are multiple state research studies to back up this position and demonstrate the positive impact of the effective school library media program on student achievement (School Libraries Work, 2006). This began a renewed interest in gathering the research data that demonstrated a relationship between the instructional program and schools with a library media center staffed by a trained professional with adequate funding and facilities that are based on the standards.

In New Mexico, the relationship between school library development and achievement test scores was found to be significant at the high school level. Similar conclusions could not be drawn from the data analyses at the elementary and middle school levels because most elementary schools lacked a full-time library media specialist and most middle schools had
precisely one full-time librarian. This study was a replication of the 1988 Colorado research and explored other issues, including identified characteristics of library media specialists and school library programs that affect academic achievement; assessed the contribution of collaboration between teachers and library media specialists to the effectiveness of school library programs; and examined the growing role of information technology in school libraries, specifically licensed databases and the Internet (Lance, Rodney, & Hamilton-Pennell, 2002).

The first Colorado study was expanded on by a survey of 211 public schools in Alaska during the 1997-1998 school year while Information Power (1998) was in development. This research found that the school library programs positively impacted student academic achievement. Test scores tended to be higher where there was a full-time library media specialist. The more time devoted to delivering instruction to students, planning instructional units with teachers, and providing training to faculty and staff had a positive impact on the test scores (Lance, Hamilton-Pennell, Rodney, Petersen, & Sitter, 1999). In 2000, the second Colorado study was published (Lance et al., 2002). This study demonstrated that reading scores increased when school library media programs had the following characteristics: library media program development, information technology, teacher/ library media specialist collaboration, and individual visits to the library media center. This study also showed that as the library media specialist participation increases in instructional leadership roles so does the collaboration between teachers and library media specialists. The relationship between these factors and the increased test scores is not explained away by other school or community conditions (Lance et al., 2002).

In a study from Iowa, reading test scores rose with the increased development of the school library media program. This study reports a strong school library media program is one
that is adequately staffed, stocked, and funded; the library media specialists are actively involved leaders in their school’s instructional program and have collegial, collaborative relationships with classroom teachers; and the library media specialist embraces networked information technology. This study makes mention that the school library is no longer a destination, but maintains many points of access for information by reaching out to students and teachers where they are (Rodney, Lance, & Hamilton-Pennell, 2002).

A study of Indiana library media specialists during the 2003-2004 school year found that the schools with educationally effective school library programs were the ones with full-time certified library media specialist rated at the proficient and exemplary levels of the AASL Rubric for at least 3 years. The students in these schools scored 17% to 20% higher on the language arts section of the Indiana state test. This study also found the proficient and exemplary library media specialists participated more in program and instructional planning, provided meaningful reading promotion, and provided access to electronic technology as well as up-to-date collections (Callison, 2004).

Several findings from a study of achievement on a Massachusetts assessment revealed that schools with school library instructional programs, larger library expenditures and book collections, as well as a full-time certified library media specialist scored significantly higher on the test. Only 87% of Massachusetts schools have a library, compared with Vermont, Oregon, Maryland, Georgia, and Arkansas, which have school libraries in 100% of schools (Baughman, 2000).

In 2003, more than 650 Illinois schools participated in a survey on their school libraries. Higher achievement on reading and writing tests were associated with schools where the library media centers were flexibly scheduled, staffed fully, had larger book collections, educational
technology was available, and were better funded. Increased achievement on the tests was also noted where the library media specialist spent more time collaborating with the classroom teachers and where the students used the libraries to learn and practice the information literacy skills needed to excel on tests and as lifelong learners. These links could not be explained away by community socioeconomic factors or other key school conditions like per-student spending or teacher/student ratio (Lance, Rodney, & Hamilton-Pennell, 2005).

In a survey of 1,715 public school library media specialists in Florida, it was found that where there was a university-trained, certified library media specialist the school library program had a larger collection, better access to technology, higher budget, more student visits to the library, and a higher circulation. This study compared the results of the survey with the test scores from the schools. The study found that each of these contributed to higher academic achievement as measured by the Florida achievement test (Baumbach, 2002).

In Missouri, the scores from the state assessment rose with the availability of school library media center services. The sample size involved with this study was test scores from 2,243 schools and 782 questionnaires completed by library media specialists. The relationship between the school library media program services and student achievement was not negated by other school and community demographics. The questionnaire included a comprehensive list of staff activities that was divided into the following five categories: learning and teaching, information access and delivery, program administration, collaboration, and leadership. The school library media center services are made up of several components that this study found to have a direct relationship to higher student achievement. These components included the following: library usage, summer reading program, library access, library budget, librarian
qualifications, library collection, and library management (Quantitative Resources, Miller, Want, & Whitacre, 2003).

The Colorado studies (Lance, Rodney, & Hamilton-Pennell, C., 2000; Lance, Welborn, & Hamilton-Pennell, 1993) have been replicated and expanded on until there seems to be solid evidence that the roles library media specialists perform in the public school systems across the United States have significant impact on student achievement. Some other notable state studies that demonstrate the relationship of a strong school library media program and its positive effect on student achievement follow: School library programs in North Carolina elementary, middle school, and high schools had a significant impact on student achievement (Burgin & Bracy, 2003). Oregon reading test scores rose with the development of school library media programs and could not be explained away by other school or community conditions at the elementary or middle schools or by other school conditions at the high school level (Lance, Rodney, & Hamilton-Pennell, 2001). Pennsylvania reading scores were found to increase when the library media specialist spent more time teaching cooperatively with teachers, teaching information literacy skills independently, providing in-service training to teachers, serving on standards committee, serving on curriculum committees, and managing information technology (Lance, Rodney, & Hamilton-Pennell, 2000). A Texas study demonstrated higher performance on a test of academic skills at all educational levels in schools with a library media specialist and the strong school library program variables explained a significant portion of the variance in the test performance (Smith, 2001).

A study with a sample of over 13,000 students in third to twelfth grades and almost 900 faculty from 39 schools in Ohio determined how students benefitted from effective school libraries (Todd & Kuhlthau, 2004). The study used two web-based surveys to collect data from
the students and faculty. The survey instrument for the students consisted of 48 statements with a Likert-type response worded in the first person beginning with “The school library has helped me . . . .” The survey provided an open-ended question to enable students to further articulate their responses if needed. The same 48 statement survey was given to the faculties at the schools with a change to reflect how the school libraries helped their students. It also provided an open-ended question asking for evidence of how they perceived the school library as impacting their students. Some of the key findings were that statistically 99.44% of the sample indicated that the school library, including the roles of the library media specialist, have helped them in some way with their learning as it related to the 48 statements. The study lists the key building blocks of an effective school library as resources, technological infrastructure, reading resources, information literacy, technological literacy, and reading engagement. The study showed that an effective school library using these key building blocks, led by a certified professional library media specialist who has a clearly defined role in the instructional process, plays an integral role in facilitating student learning. In a subsequent interview about the Ohio study, Todd provided a profile of the successful school library, which included the following roles: resource agents, literacy development agents, knowledge construction agents, academic achievement agents, independent reading and personal development agents, technological literacy agents, rescue agents, and individualized learning agents (Whelan, 2004).

In 2001, the No Child Left Behind Act (NCLB) was implemented. Since this time, the work of anyone involved with the field of education has been affected. Standards-based accountability systems, which consist of standards, assessments, and consequences, were required to be implemented by every state. A longitudinal study was conducted to assess the experiences of teachers and administrators after NCLB was implemented (Hamilton et al., 2007).
The findings from this study suggest a need for clarification of the available information on the alignment among standards, assessments, and curriculum as well as capacity-building efforts to help educators engage effectively in the school improvement process. This study found that teachers expressed less support for NCLB than the administrators. The researchers believe that teachers are in a unique position to see the effects of the accountability on teaching and learning (Hamilton et al.). Since library media specialist serve students and teachers, library media specialist are in a unique position to not only witness the effects of NCLB on students but also the effects on the teachers’ practice as well. Drake (2007) found that one state’s library media specialists reported almost 70% did at least some teaching and almost 72% participated in the instructional partnering role as described in Information Power.

During the 1999-2000 school year, 1 year after the 1998 standards were published, there were 83,824 public elementary and secondary schools with 97% having a school library media center and 86% having a professional library media specialist (Michie & Holton, 2005). With the dawn of the new millennium and the explosion of available information and improvements in technology access and the massive changes in the educational system, the school library standards continued to evolve toward the newest version, which was developed by AASL and published by ALA in 2007. Gone are the specific guidelines for the number of items that should be contained in collections, staffing recommendations, budget amounts, and facilities sizes. They have evolved into standards that are learner-focused and address skills students should acquire with the support of the school library program.
The new standards have attempted to address the amount of information and how today’s students learn about finding, using, and presenting this information. The amount of information has exploded and there is no way that any one person can keep up with everything. The Library of Congress, the world’s largest library, adds over 7,000 books daily to the more than 100 million items that are already contained on the 530 miles of shelves (Battles, 2003). Taking this into account with all the information that is created daily on the World Wide Web, as well as personal correspondence, papers, and communication, the amount of information is overwhelming. For the most part, card catalogs have been replaced by online databases which can be accessed any time day or night. Full-text articles, books, and entire reference sets are now instantly available in a multimedia format online. The newest standards attempt to address a way to process, use, and communicate this available information.

The 2007 Standards for the 21st-Century Learner are a culmination of all the preceding school library standards and guidelines. The influence of all the educational organizations that have contributed to the school library standards and guidelines can be found throughout this document. This version of the school library standards are prefaced with nine common beliefs:

1. Reading is a window to the world.
2. Inquiry provides a framework for learning.
3. Ethical behavior in the use of information must be taught.
4. Technology skills are crucial for future employment needs.
5. Equitable access is a key component for education.
6. The definition of information literacy has become more complex as resources and technologies have changed.
7. The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.
8. Learning has a social context.
9. School libraries are essential to the development of learning skills. (AASL, 2007, pp. 2-3)
The 2007 standards are based on the following four basic principles and are framed in four forms including skills, dispositions in action, responsibilities, and self-assessment strategies:

Learners use skills, resources, and tools to:

- Inquire, think critically, and gain knowledge.
- Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
- Share knowledge and participate ethically and productively as members of our democratic society.
- Pursue personal and aesthetic growth. (AASL, 2007, p. 3)

The companion publications to the *Standards for the 21st-Century Learner* have recently been published or are currently in the pipeline for publication. *Standards for the 21st-Century Learner in Action* and *Empowering Learners: Guidelines for School Library Media Programs* are the supporting documents for the standards. *Learning 4 Life: A National Plan for Implementation of Standards for the 21st-Century Learner* and *Empowering Learners: Guidelines for School Library Media Programs* are available on the AASL website. The implementation is to be rolled out over the next 3 to 5 years (AASL, 2007). Coatney (2009) notes that the struggle some in the profession had with the terminology of the standards should have their fears allayed once they read *Standards for the 21st-Century Learner in Action.*

Whether or not library media specialists purchase this companion publication to the *Standards for the 21st-Century Learner*, which is freely available on the AASL website, remains to be seen. The study of how school library media specialists perceive their endorsement and implementation of the standards will be of increased importance during the early years since they will be the ones communicating the new standards to their educational communities (AASL, 2009).

School library media programs have become accepted parts of the educational system even as the roles and responsibilities of the library media specialist have evolved through the decades.
It still remains to be seen if the 2007 version of the standards will become accepted and implemented by the professionals responsible for the library media programs in the schools.

During the 2005-2006 school year, 49.1 millions students were enrolled in the public elementary and secondary schools in the United States. There were 54,068 certified library media specialists to serve these public school students during the 2005-2006 school year, which figures to about one library media specialist to every 900 students (Sable & Garofano, 2007). According to a national survey conducted in 2007, the average school library media specialist spends over 20 hours each week in instructional activities and oversees a budget of about $7,000.00 which averages out to about $11.24 per student (AASL, 2007). The survey also reports that the average school has over 100 networked computers, with 16 of these being in the library media center. According to the survey, the top 5% of schools have an average of 450 computers with 64 located in the library media center. Of the schools surveyed, over 81% of the high schools, 70% of the middle schools, and 52% of the elementary schools offered remote access to online reference databases (AASL). The school library media specialists of today spend the majority of their professional day in instructional activities. School library media specialists come into contact with the majority of students, and research into their level of agreement and implementation of the national school library media standards is an important area of study.

It remains to be seen how the 2007 school library media standards will be accepted. The implementation materials are still being developed. It will be interesting to see if these standards are as readily accepted as previous versions and if there will be the all out public relations implementation program like the 1960 standards and Information Power. School library media specialists’ perceptions of their level of agreement with previous standards published by the national organizations have not been studied as much as student achievement because of the
national climate of education. This is an important area of research, because for the new school library standards to be successful not only should they be accepted by the school library professionals who are charged with implementing them, but acceptance will need to progress effectively to all educational stakeholders involved.

Summary

From the first published school library standards in 1920 to the current version published in 2007, the standards have evolved from quantitative lists of materials every high school library should have in its collection to standards that every learner should acquire from the school library media program. Each new set of standards has tried to adjust to a changing educational landscape by incorporating new roles for the library media specialists as new information technologies and innovations have emerged. Studies demonstrate consistently that school library media centers with quality collections, access to instructional technology, and a professionally trained library media specialist involved in the educational process are contributing positively to the academic success of their students.

The 1945 standards started a revolution that resulted in the majority of public schools having a school library served by a professional library media specialist. The 1960, 1969, and 1975 standards integrated the school library with the audiovisual departments into a unified library media center. The roles as identified in Information Power (AASL & AECT, 1998) of teacher, instructional partner, information specialist, and program administrator have led to greater integration of the school library media program into the learning community. It still remains to be seen how the 2007 standards will affect the current educational climate. The study
of the perceptions of the library media specialist in their level of acceptance and the degree of implementation of these standards will add to this body of research.
CHAPTER III
RESEARCH METHODOLOGY

Introduction

The purpose of this research project was to study how the *AASL’s Standards for the 21st-Century Learner* (ALA, 2007) are perceived by building-level school library media specialists. This research paper studied the perceptions of the level of endorsement that school library media specialists place on the new standards and their perceptions of the degree they implement the standards into their library media programs. The perceptions of the level the library media specialists endorse the standards and implement the standards is important to the development and maintenance of a quality school library media program. This research studied the relationship between their perception of the level of endorsement and the degree of implementation.

Survey Instrument

The online survey (Appendix A) consisted of five demographic items, nine belief statements, and four standards. Each standard is presented in four areas: skills, dispositions in action, responsibilities, and self-assessment strategies. Multiple statements are presented in each area. The survey corresponded to the wording of the nine belief statements and four standards as published in the 2007 *Standards for the 21st-Century Learner*. At the end of each section was a voluntary comment area to provide survey participants an outlet for any concerns about the standards. This version of the school library standards is prefaced with nine common beliefs.
1. Reading is a window to the world.
2. Inquiry provides a framework for learning.
3. Ethical behavior in the use of information must be taught.
4. Technology skills are crucial for future employment needs.
5. Equitable access is a key component for education.
6. The definition of information literacy has become more complex as resources and technologies have changed.
7. The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.
8. Learning has a social context.
9. School libraries are essential to the development of learning skills. (AASL, 2007, pp. 2-3)

The following four standards are based on these basic beliefs and are then framed in the form of skills, dispositions in action, responsibilities, and self-assessment strategies:

Learners use skills, resources, and tools to:
- Inquire, think critically, and gain knowledge.
- Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
- Share knowledge and participate ethically and productively as members of our democratic society.
- Pursue personal and aesthetic growth. (AASL, 2007, p. 3)

Each of the four standards contains four strands. Standard One is given as an example.

See Appendix A for the survey as it appeared online.

*Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.*

1.1 Skills:
1.1.1 Follow an inquiry-based process in seeking knowledge in curricular subjects, and make the real world connection for using this process in own life.
1.1.2 Use prior and background knowledge as context for new learning.
1.1.3 Develop and refine a range of questions to frame the search for new understanding.
1.1.4 Find, evaluate, and select appropriate sources to answer questions.
1.1.5 Evaluate information found in selected sources on the basis of accuracy, validity, appropriateness for needs, importance, and social and cultural context.
1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.
1.1.7 Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.
1.1.8 Demonstrate mastery of technology tools for accessing information and pursuing inquiry.
1.1.9 Collaborate with others to broaden and deepen understanding.

1.2 Dispositions in action:
1.2.1 Display initiative and engagement by posing questions and investigating the answers beyond the collection of superficial facts.
1.2.2 Demonstrate confidence and self-direction by making independent choices in the selection of resources and information.
1.2.3 Demonstrate creativity by using multiple resources and formats.
1.2.4 Maintain a critical stance by questioning validity and accuracy of all information.
1.2.5 Demonstrate adaptability by changing the inquiry focus, questions, resources, or strategies when necessary to achieve success.
1.2.6 Display emotional resilience by persisting in information searching despite challenges.
1.2.7 Display persistence by continuing to pursue information to gain a broad perceptive.

1.3 Responsibilities:
1.3.1 Respect copyright/intellectual property rights of creators and producers.
1.3.2 Seek divergent perspectives during information gathering and assessment.
1.3.3 Follow ethical and legal guidelines in gathering and using information.
1.3.4 Contribute to the exchange of ideas within the learning community.
1.3.5 Use information technology responsibly

1.4 Self-Assessment Strategies:
1.4.1 Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.
1.4.2 Use interaction with and feedback from teachers and peers to guide own inquiry process.
1.4.3 Monitor gathered information and assess for gaps or weaknesses.
1.4.4 Seek appropriate help when it is needed. (AASL, 2007, p. 3)

Space was provided for the respondents to indicate their perceived level of endorsement and their perceived level of implementation using a scale between 1 (none) and 7 (full) after each statement. Each standard was presented in four strands—skills, dispositions in action, responsibilities, and self-assessment strategies—with multiple statements in each area. The survey was considered lengthy, but was based on the wording of the document as published. A preliminary study was conducted using a convenience sample of highly regarded school library media specialists and professors to test the survey for format. The recommendation was made to combine the endorsement and implementation sections so participants had to read the statements one time and then make their selection of level of endorsement and implementation. This cut down on the time required to complete the survey and was thought to increase participation.
Research Population

The target population of this study was the approximately 2,400 library media specialists who worked in a Georgia public school library media center at the time of this study. The participants consisted of school library media specialists who completed an online survey. Krejcie and Morgan (1970) generated a table of appropriate sample size (S) given the population size (N). Their table is based on a formula originally developed by the U.S. Department of Education. The approximate population was 2,400 (N), so the sample size goal was determined to be at least 331 (S) usable surveys (Krejcie & Morgan). Participants were solicited through an email listserv (Appendix B) consisting of approximately 750 registered users and articles published online at the Georgia Library Media Association’s wiki. Readers of the emails and articles were encouraged to forward the information to other library media specialists who might participate in the survey. Emails requesting participation were sent every 2 weeks for a 3-month period. Monthly reminders were published on the wiki. After exhausting the pool of likely participants, a total of 305 usable surveys were acquired. The number of respondents who completed the survey should be considered a limitation because the goal of 331 was not reached. The demographic information requested was years as a library media specialist, years prior teaching experience, prior teaching subject, school level (elementary, middle, or high), and membership in state or national organizations.

A request for approval of research involving human subjects was sent to the Institutional Review Board for the Protection of Human Subjects (IRB) of The University of Alabama for acceptance (see Appendix C). After approval, the request for participation was emailed to the listserv and posted on the wiki. Participation in the study was completely voluntary. There were no known foreseeable discomforts or risks expected for the participants. Neither were there any
benefits for the participants. All of the data were reported anonymously, and informed consent was on the jump page where the hyperlink to the survey was located.

Data Collection

An online survey instrument was used to collect the responses of the participants. The survey was administered over the World Wide Web and the data were reported anonymously. An email was sent to the Georgia media listserv requesting participation. The approved informed consent was located on the email, which contained the hyperlink to the survey. An article was also placed on the Georgia Library Media Association’s wiki requesting participation. The article included the informed consent and the hyperlink to the survey. A reminder email was sent bi-weekly to the listserv and monthly on the wiki for 3 months until the rate of response was at a minimal level. Each request included the approved online survey informed consent statement and the invitation to voluntarily participate in the survey.

Research Questions

1. To what extent do library media specialists endorse the current national school library standards as appropriate to their perception of the profession?

2. To what degree do library media specialists perceive that the national standards are implemented in their respective schools?

3. How do the perceptions of the library media specialists’ level of endorsement of the standards compare with the perceptions as to their degree of implementation?
Data Analysis

The survey data are analyzed in the next chapter using nonparametric statistics to determine the significant relationships between the perception of the level of endorsement and the level of implementation that school library media specialists have with the 2007 Standards for the 21st-Century Learner. Nonparametric statistical tests were used because the data from this Likert-type scale is considered on an ordinal level and not a summative rating. Each respondent’s rating should be considered on its own value.

Content validity was assumed since the standards document was produced and published by AASL, the national school library media organization. Wilcoxon matched-pairs signed-rank and the Friedman nonparametric tests were used to determine whether there were significant relationships between the perceptions of the library media specialists and the level of endorsement they placed on the standards and their perception of the degree they implemented each of the components of the standards. An alpha level of .01 was used in determining significance in statistical tests. The relationships in selected demographic groups were analyzed using the Kruskal-Wallis one-way analysis of variance then the pairwise comparisons were conducted using the Mann-Whitney U test.

Parametric tests make certain assumptions about the parameters of the population from which the samples were drawn. Assumptions of normality and homogeneity of variance are made for the respective populations. The data for this research project did not meet the parametric assumptions, which is not unusual for behavioral science research (Hinkle, Wiersma, & Stephen, 2003). Nonparametric tests have been developed for the ordinal data collected for this study.
The Friedman test is the nonparametric equivalent of a one-way repeated measures ANOVA. It is used when there are more than two measurements from related subjects (Cronk, 2002). The assumptions underlying the Friedman test are as follows:

Assumption 1: Each set of K observations must represent a random sample from a population and must be independent of every other set of K observations.
Assumption 2: The Chi-Square values for the Friedman test yield relatively accurate results to the extent that the sample size is large ($N > 30$).
Assumption 3: The distribution of the differences scores between any pair of levels is continuous and symmetrical in the population. (Green & Salkind, 2005, pp. 407-408)

The Wilcoxon test is the nonparametric equivalent of the paired-samples or dependent $t$ test. The Wilcoxon tests whether or not two related samples are from the same distribution (Cronk, 2002). The assumptions underlying the Wilcoxon test are as follows:

Assumption 1: Each pair of observations must represent a random sample from a population and must be independent of every other pair of observations.
Assumption 2: The $Z$ tests for the Wilcoxon test yield accurate results to the extent that the sample size is large ($N > 16$ pairs).
Assumption 3: The distribution of the difference scores is continuous and symmetrical in the population. (Green & Salkind, 2005, p. 399)

The Kruskal-Wallis test is the nonparametric equivalent of the one-way ANOVA. It tests whether or not several independent samples come from the same population (Cronk, 2002). The assumptions underlying the Kruskal-Wallis test are as follows:

Assumption 1: The continuous distributions for the test variable are exactly the same for the different populations.
Assumption 2: The cases represent random samples from the populations and the scores on the test variable are independent of each other.
Assumption 3: The Chi-Square statistic for this test is only approximate and becomes more accurate with larger sample sizes ($N \geq 30$). (Green & Salkind, 2005, p. 385)

The Mann-Whitney test is the nonparametric equivalent of the independent $t$ test. It tests whether or not two independent samples are from the same distribution (Cronk, 2002). The assumptions underlying the Mann-Whitney test are as follows:
Assumption 1: The continuous distributions for the test variable are exactly the same (except their medians) for the two populations.
Assumption 2: The cases represent random samples from the two populations, and the scores on the test variable are independent of each other.
Assumption 3: The Z-approximation test for the Mann-Whitney U test requires a large sample size ($N > 42$). (Green & Salkind, 2005, pp. 378-379)

Nonparametric statistical tests were used to analyze the ordinal data provided by the respondents to the online survey. The Friedman, Wilcoxon, Kruskal-Wallis, and Mann-Whitney nonparametric statistical tests are appropriate to use for these analyses.

Chapter Summary

The purpose of this study was to examine the perceptions of library media specialists’ perceptions of their level of endorsement and implementation of AASL’s *Standards for the 21st-Century Learner*. Data were collected using an online survey and analyzed using nonparametric statistical tests. Analyses were conducted to determine the level of endorsement of the nine beliefs and four standards in relationship to each other. Analyses of the level implementation were also conducted. Analyses were conducted in an effort to describe significant differences between the level of endorsement and level of implementation of the new standards as perceived by the practitioners charged with implementing them into their daily library media programs. The data were also analyzed to determine whether significant differences existed among the demographic groups including years serving as a school library media specialist, years prior teaching experience, school level, and organizational membership. The results are presented in chapter 4.
CHAPTER IV
RESULTS

Introduction

The purpose of this research project was to study the perception of the level of endorsement that school library media specialists place on the *AASL’s Standards for the 21st-Century Learner* (ALA, 2007) and their perception of how much they implement the standards into their library media programs. The relationship of these perceptions was studied to determine whether the level of endorsement was the same as the level of implementation. The relationship between the level of endorsement of the beliefs and the standards was studied to determine whether this level was the same for all the beliefs and standards. Also studied were the relationships between the level of implementation of the beliefs and standards to determine whether all were perceived as implemented at the same level. Demographic data were collected about each participant’s years of service as a school library media specialist, years of prior teaching experience, school level (elementary, middle, or high), and membership in school library organizations (state or national). An online survey was used to gather the data from current school library media specialists in the state of Georgia. The data were analyzed using SPSS® for Windows (Release 13.0).

This chapter is divided into six sections. The first section is the introduction including the sample and demographics. The second section will present the results of the relationship of the level of endorsement of the nine beliefs to each other and the level of implementation of the beliefs to each other of the entire sample (*N* = 305) using the nonparametric statistical test,
Friedman. The pairwise comparisons on the level of endorsement and the level of implementation were conducted using the Wilcoxon test. The next section will present the results of the relationship of the level of endorsement of the four standards to each other and the level of implementation of the standards to each other for the entire sample using the Friedman. The pairwise comparisons were conducted using the Wilcoxon test. The following section will present the results of the relationship of the level of endorsement and the level of implementation using the demographic groups of years of service as a library media specialist, years of prior teaching experience, and membership in professional state or national organizations. The Kruskal-Wallis test was conducted to evaluate the differences and pairwise comparisons were conducted using the Mann-Whitney test. The fifth section will contain the results of the four standards compared to each of the four strands using the whole group sample. The four strands--skills, dispositions, responsibilities, and self-assessment--were compared with each other and the standard which they represent using the Friedman test with the pairwise comparisons conducted with the Wilcoxon test. The final section will present some applicable observations from the open-ended portion of the survey where the participants could leave comments.

Sample

The state of Georgia has approximately 2,400 school library media specialists in the state of Georgia. The email listserv for the Georgia library media specialists has approximately 750 registered users. An online survey using the wording of the *AASL’s Standards for the 21st-Century Learner* (ALA, 2007) was developed and publicized through the listserv as well as the Georgia Library Media Association’s wiki. The goal was at least 331 usable surveys (Krejcie & Morgan, 1970). Repeated requests were made for participation. The email and wiki contained an
invitation to participate in the survey, the informed consent statement, and a hyperlink to the survey. A total of 305 usable surveys was submitted during a 3-month period. Participation had dwindled off and it was decided that the pool of qualified participants had been exhausted at the end of this time period.

Demographic Data

The participants provided demographic data describing their years as a school media specialist, years prior teaching experience, school level, and library media organization membership. The range of years as a school library media specialist was from less than 1 year experience to a high of 36 years. The range of years of prior teaching experience was none to a high of 30 years. Participants’ current school level is presented in Table 1.

Table 1

*School Level Rates for Survey*

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School</td>
<td>153</td>
<td>50.2</td>
</tr>
<tr>
<td>Middle School</td>
<td>64</td>
<td>21.0</td>
</tr>
<tr>
<td>High School</td>
<td>88</td>
<td>28.8</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Survey participants were asked to indicate their membership in professional organizations. State organizations included the Georgia Library Media Association, Georgia Library Association and Georgia Association of Instructional Technology. National organizations included the American Library Association, American Association of School Librarians, Association for Educational Communications and Technology, and International
Society for Technology in Education. Both were selected if the participant was a member of one or more state organizations and one or more national organizations. None was designated if the participant was not a member of either group of organizations. Survey participants’ membership in library media organizations is shown in Table 2.

Table 2

*Membership in Professional Library Media Organizations*

<table>
<thead>
<tr>
<th>Professional Organization Membership</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>83</td>
<td>27.2</td>
</tr>
<tr>
<td>State Only</td>
<td>154</td>
<td>50.5</td>
</tr>
<tr>
<td>National Only</td>
<td>11</td>
<td>3.6</td>
</tr>
<tr>
<td>Both State and National</td>
<td>57</td>
<td>18.7</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The survey participants were asked to report the number of years they had served as a school library media specialist. The library media specialists considered new to the profession have worked 5 years or less. Those considered mid-career have worked between 6 and 12 years. Those considered late-career have worked more than 13 years in the library media profession. Table 3 shows the division of the participants into the three different groups.

Table 3

*Years Experience as School Library Media Specialist*

<table>
<thead>
<tr>
<th>Library Media Years Experience</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>New 0-5 Years</td>
<td>100</td>
<td>32.8</td>
</tr>
<tr>
<td>Mid Career 6-12</td>
<td>97</td>
<td>32.1</td>
</tr>
<tr>
<td>Late Career 13+</td>
<td>107</td>
<td>35.1</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The participants in the survey were asked how many years they had taught before entering the school library media profession. Almost a third had no prior teaching experience, though over two-thirds had taught at least a year before becoming a library media specialist. The groups for prior years of teaching experience were divided into three groups. The first group had no prior teaching experience. The second group had between 1 and 7 years prior teaching experience. The third group had 8 years or more teaching experience. Table 4 presents the breakdown of prior years teaching experience into the three groups.

Table 4

*Teaching Experience Before Entering Library Media*

<table>
<thead>
<tr>
<th>Prior Years of Teaching Experience</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>94</td>
<td>30.8</td>
</tr>
<tr>
<td>1-7 years</td>
<td>105</td>
<td>34.4</td>
</tr>
<tr>
<td>8 years or more</td>
<td>106</td>
<td>34.8</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The respondents were asked what subject they taught prior to becoming a library media specialist. The largest group was those library media specialists with no prior teaching experience. Elementary teachers were the next largest group and previous English language arts teachers are still represented in high numbers in the school library field. Table 5 shows the breakdown of the respondents’ answers to the question on what subject they previously taught.
Table 5

Subject Previously Taught

<table>
<thead>
<tr>
<th>Subject</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Previous Teaching</td>
<td>94</td>
<td>30.8</td>
</tr>
<tr>
<td>Elementary</td>
<td>67</td>
<td>22.0</td>
</tr>
<tr>
<td>English</td>
<td>57</td>
<td>18.7</td>
</tr>
<tr>
<td>Vocational</td>
<td>17</td>
<td>5.6</td>
</tr>
<tr>
<td>Math</td>
<td>15</td>
<td>4.9</td>
</tr>
<tr>
<td>Science</td>
<td>9</td>
<td>2.9</td>
</tr>
<tr>
<td>Social Studies</td>
<td>18</td>
<td>5.9</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>8</td>
<td>2.6</td>
</tr>
<tr>
<td>Public/ Academic Library</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Special Education</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
<td>2.6</td>
</tr>
<tr>
<td>Total</td>
<td>305</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Beliefs

The participants were asked to rate their level of endorsement (1 = none to 7 = full) to the nine belief statements as they are listed in *AASL’s Standards for the 21st-Century Learner*. This version of the school library standards are prefaced with the nine common beliefs.

1. Reading is a window to the world.
2. Inquiry provides a framework for learning.
3. Ethical behavior in the use of information must be taught.
4. Technology skills are crucial for future employment needs.
5. Equitable access is a key component for education.
6. The definition of information literacy has become more complex as resources and technologies have changed.
7. The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.
8. Learning has a social context.
9. School libraries are essential to the development of learning skills. (AASL, 2007, pp. 2-3)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants in the nine beliefs as listed in the *Standards for the 21st-Century Learner*. The test was significant, \( \chi^2 (8, N = 305) = 273.82, p < .01 \), and the Kendall coefficient
of concordance of .112 indicated fairly strong differences in the level of endorsement among the nine beliefs. Table 6 shows the descriptive statistics for the levels of endorsement for the nine belief statements. Table 7 presents the average mean rank of each variable from the Friedman test.

Table 6

**Beliefs-Endorsement Descriptive Statistics**

<table>
<thead>
<tr>
<th>Beliefs</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>305</td>
<td>6.82</td>
<td>.741</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Inquiry</td>
<td>305</td>
<td>6.49</td>
<td>.907</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Ethical</td>
<td>305</td>
<td>6.76</td>
<td>.706</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Technology</td>
<td>305</td>
<td>6.70</td>
<td>.694</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Equitable</td>
<td>305</td>
<td>6.58</td>
<td>.791</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Info Lit</td>
<td>305</td>
<td>6.52</td>
<td>.903</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Thinking Skills</td>
<td>305</td>
<td>6.68</td>
<td>.787</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Social</td>
<td>305</td>
<td>6.09</td>
<td>1.232</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>School Libraries</td>
<td>305</td>
<td>6.85</td>
<td>.495</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 7

**Beliefs-Endorsement: Friedman Mean Ranks**

<table>
<thead>
<tr>
<th>Beliefs</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>5.63</td>
</tr>
<tr>
<td>Inquiry</td>
<td>4.59</td>
</tr>
<tr>
<td>Ethical</td>
<td>5.43</td>
</tr>
<tr>
<td>Technology</td>
<td>5.21</td>
</tr>
<tr>
<td>Equitable</td>
<td>4.84</td>
</tr>
<tr>
<td>Info Lit</td>
<td>4.71</td>
</tr>
<tr>
<td>Thinking Skills</td>
<td>5.14</td>
</tr>
<tr>
<td>Social</td>
<td>3.79</td>
</tr>
<tr>
<td>School Libraries</td>
<td>5.66</td>
</tr>
</tbody>
</table>

The school library media specialists ranked the Beliefs according to the ratings of their level of endorsement in the following order:
1. Belief 9: School libraries are essential to the development of learning skills.

2. Belief 1: Reading is a window to the world.

3. Belief 3: Ethical behavior in the use of information must be taught.

4. Belief 4: Technology skills are crucial for future employment needs.

5. Belief 7: The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.

6. Belief 5: Equitable access is a key component for education.

7. Belief 6: The definition of information literacy has become more complex as resources and technologies have changed.


9. Belief 8: Learning has a social context.

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the nine beliefs. A significant difference was found in the school library media specialists’ level of endorsement of Belief 1 which was greater than the following:

- Belief 2 ($Z = -6.11, p < .01$)
- Belief 5 ($Z = -4.52, p < .01$)
- Belief 6 ($Z = -6.02, p < .01$)
- Belief 7 ($Z = -8.65, p < .01$)
- Belief 8 ($Z = -8.65, p < .01$)

A significant difference was found in the school library media specialists’ level of endorsement for Belief 2, which was less than the following:
Belief 3 \((Z = -5.16, p < .01)\)
Belief 4 \((Z = -4.11, p < .01)\)
Belief 7 \((Z = -3.81, p < .01)\)
Belief 9 \((Z = -6.09, p < .01)\)

A significant difference was found in the level of endorsement of Belief 2, which was greater than Belief 8 \((Z = -5.56, p < .01)\). The level of endorsement for Belief 3 was found to be greater than the following:

Belief 5 \((Z = -3.38, p < .01)\)
Belief 6 \((Z = -3.88, p < .01)\)
Belief 8 \((Z = -8.18, p < .01)\)

The level of endorsement for Belief 4 was found to be significantly greater than Belief 6 \((Z = -3.18, p < .01)\) and Belief 8 \((Z = -7.39, p < .01)\). The level of endorsement for Belief 4 was found to be significantly less than Belief 9 \((Z = -3.36, p < .01)\). The level of endorsement for Belief 5 was significantly greater than Belief 8 \((Z = -6.76, p < .01)\) and was significantly less than Belief 9 \((Z = -5.37, p < .01)\). The level of endorsement for Belief 6 was significantly greater than Belief 8 \((Z = -5.42, p < .01)\) but significantly less than Belief 7 \((Z = -3.12, p < .01)\) and Belief 9 \((Z = -5.31, p < .01)\). The level of endorsement for Belief 7 was significantly greater than Belief 8 \((Z = -7.78, p < .01)\) but significantly less than Belief 9 \((Z = -3.32, p < .01)\). The level of endorsement for Belief 9 was significantly greater than Belief 8 \((Z = -9.32, p < .01)\).

No significant difference was found in the level of endorsement for the following:

Belief 1 and Belief 9 \((Z = -0.37, p > .01)\)
Belief 1 and Belief 3 \((Z = -1.45, p > .01)\)
Belief 1 and Belief 4 \((Z = -2.52, p > .01)\)
Belief 3 and Belief 9 ($Z = -1.94, p > .01$) 

Belief 3 and Belief 4 ($Z = -1.27, p > .01$) 

Belief 3 and Belief 7 ($Z = -1.63, p > .01$) 

Belief 4 and Belief 5 ($Z = -2.00, p > .01$) 

Belief 4 and Belief 7 ($Z = -0.19, p > .01$) 

Belief 5 and Belief 6 ($Z = -1.27, p > .01$) 

Belief 5 and Belief 7 ($Z = -2.20, p > .01$).

The respondents rated their level of implementation of the Beliefs in their school library media programs using a Likert-type scale of 1 (no implementation) to 7 (full implementation). A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants of the nine beliefs as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (8, N = 305) = 407.91, p < .01$, and the Kendall coefficient of concordance of .167 indicated fairly strong differences among the nine beliefs. Table 8 shows the descriptive statistics for the levels of implementation for the nine belief statements. Table 9 presents the average mean rank of each variable from the Friedman test.

Table 8

<table>
<thead>
<tr>
<th>Beliefs</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>305</td>
<td>6.29</td>
<td>.970</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Inquiry</td>
<td>305</td>
<td>5.22</td>
<td>1.373</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Ethical</td>
<td>305</td>
<td>5.64</td>
<td>1.415</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Technology</td>
<td>305</td>
<td>5.43</td>
<td>1.377</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Equitable</td>
<td>305</td>
<td>5.65</td>
<td>1.390</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Info Lit</td>
<td>305</td>
<td>5.30</td>
<td>1.329</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Thinking Skills</td>
<td>305</td>
<td>5.22</td>
<td>1.278</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Social</td>
<td>305</td>
<td>5.14</td>
<td>1.431</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>School Libraries</td>
<td>305</td>
<td>6.16</td>
<td>1.057</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 9

*Beliefs-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Beliefs</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>6.69</td>
</tr>
<tr>
<td>Inquiry</td>
<td>4.10</td>
</tr>
<tr>
<td>Ethical</td>
<td>5.11</td>
</tr>
<tr>
<td>Technology</td>
<td>4.75</td>
</tr>
<tr>
<td>Equitable</td>
<td>5.29</td>
</tr>
<tr>
<td>Info Lit</td>
<td>4.43</td>
</tr>
<tr>
<td>Thinking Skills</td>
<td>4.15</td>
</tr>
<tr>
<td>Social</td>
<td>4.03</td>
</tr>
<tr>
<td>School Libraries</td>
<td>6.44</td>
</tr>
</tbody>
</table>

The Beliefs from the Standards were ranked in the following order using the respondents’ rating of their level of implementation of each Belief in their school library media program:

1. Belief 1: Reading is a window to the world.

2. Belief 9: School libraries are essential to the development of learning skills.

3. Belief 5: Equitable access is a key component for education.

4. Belief 3: Ethical behavior in the use of information must be taught.

5. Belief 4: Technology skills are crucial for future employment needs.

6. Belief 6: The definition of information literacy has become more complex as resources and technologies have changed.

7. Belief 7: The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.


9. Belief 8: Learning has a social context.

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The
Wilcoxon test examined the results of the level of implementation between each of the nine beliefs. A significant difference was found in the school library media specialists’ level of implementation of Belief 1, which was greater than the following:

- Belief 2 ($Z = -11.71, p < .01$)
- Belief 3 ($Z = -6.32, p < .01$)
- Belief 4 ($Z = -8.60, p < .01$)
- Belief 5 ($Z = -6.97, p < .01$)
- Belief 6 ($Z = -9.82, p < .01$)
- Belief 7 ($Z = -10.91, p < .01$)
- Belief 8 ($Z = -10.69, p < .01$)

A significant difference was found in the school library media specialists’ level of implementation for Belief 2, which was less than the following:

- Belief 3 ($Z = -4.37, p < .01$)
- Belief 4 ($Z = -2.75, p < .01$)
- Belief 5 ($Z = -4.71, p < .01$)
- Belief 9 ($Z = -9.92, p < .01$)

The level of implementation for Belief 3 was found to be significantly greater than the following:

- Belief 6 ($Z = -3.75, p < .01$)
- Belief 7 ($Z = -4.75, p < .01$)
- Belief 8 ($Z = -5.22, p < .01$)

The level of implementation for Belief 3 was found to be significantly less than Belief 9 ($Z = -6.16, p < .01$). The level of implementation for Belief 4 was found to be significantly greater than Belief 7 ($Z = -2.84, p < .01$) and Belief 8 ($Z = -3.56, p < .01$)
The level of implementation for Belief 4 was found to be significantly less than Belief 9 ($Z = -7.90, p < .01$). The level of implementation for Belief 5 was significantly greater than the following:

- Belief 6 ($Z = -3.91, p < .01$)
- Belief 7 ($Z = -5.07, p < .01$)
- Belief 8 ($Z = -5.52, p < .01$)

The level of implementation for Belief 5 was significantly less than Belief 9 ($Z = -5.43, p < .01$). The level of implementation for Belief 6 significantly less than Belief 9 ($Z = -9.31, p < .01$). The level of implementation for Belief 7 was significantly less than Belief 9 ($Z = -10.41, p < .01$). The level of implementation for Belief 9 was significantly greater than Belief 8 ($Z = -10.42, p < .01$).

No significant difference was found in the level of implementation for the following:

- Belief 1 and Belief 9 ($Z = -2.11, p > .01$)
- Belief 2 and Belief 6 ($Z = -1.00, p > .01$)
- Belief 2 and Belief 7 ($Z = -0.14, p > .01$)
- Belief 2 and Belief 8 ($Z = -0.95, p > .01$)
- Belief 3 and Belief 4 ($Z = -2.00, p > .01$)
- Belief 3 and Belief 5 ($Z = -0.33, p > .01$)
- Belief 4 and Belief 5 ($Z = -2.30, p > .01$)
- Belief 4 and Belief 6 ($Z = -1.66, p > .01$)
- Belief 6 and Belief 7 ($Z = -1.23, p > .01$)
- Belief 7 and Belief 8 ($Z = -1.25, p > .01$).
A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each belief. As expected, a significant difference was found between the level of endorsement and the level which the belief is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all beliefs. The following are the results:

Belief 1 ($Z = -8.38, p < .01$)
Belief 2 ($Z = -12.07, p < .01$)
Belief 3 ($Z = -10.73, p < .01$)
Belief 4 ($Z = -12.18, p < .01$)
Belief 5 ($Z = -10.56, p < .01$)
Belief 6 ($Z = -11.76, p < .01$)
Belief 7 ($Z = -13.20, p < .01$)
Belief 8 ($Z = -10.98, p < .01$)
Belief 9 ($Z = -9.53, p < .01$)

Beliefs Results Section Summary

In this section, the level of endorsement and the level of implementation, as perceived by school library media specialists of the nine beliefs as found in AASL’s Standards for the 21st-Century Learner (ALA, 2007), were analyzed using nonparametric statistical tests. A Friedman test found significant differences in the level of endorsement between the beliefs. The results from the Wilcoxon test presented which beliefs had significant differences in the level of endorsement among the sample ($N = 305$) of school library media specialists. The same tests were used to analyze the level of implementation. Finally, the Wilcoxon test was used to analyze
the differences between the level of endorsement and the level of implementation of each belief. The level of endorsement was significantly greater than the level of implementation for all nine beliefs. The next section will present the results for the four Standards.

Standards

Standards-Endorsement

The participants were asked to rate their level of endorsement (1 = none to 7 = full) to the four standards as they are listed in AASL’s Standards for the 21st-Century Learner.

Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.

Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.

Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth. (AASL, 2007, p. 2)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have in the four standards as listed in the Standards for the 21st-Century Learner. The test was significant, \( \chi^2 (3, N = 305) = 16.39, p < .01 \), and the Kendall coefficient of concordance of .018 indicated fairly strong differences among the four standards. Table 10 shows the descriptive statistics for the levels of endorsement for the four standards. Table 11 presents the average mean rank of each variable from the Friedman test.
Table 10

Standards-Endorsement Descriptive Statistics

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>305</td>
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Table 11

Standards-Endorsement: Friedman Mean Ranks

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<tbody>
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<td>2.49</td>
</tr>
<tr>
<td>4</td>
<td>2.43</td>
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</table>

The Standards were ranked in the following order using the respondents’ rating of their level of endorsement of each Belief in their school library media program:

1. Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.

2. Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

3. Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.

4. Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the four standards. A significant difference was found in the school library media specialists’ level of endorsement of Standard 1, which was greater than the following:

- Standard 2 ($Z = -3.49, p < .01$)
- Standard 3 ($Z = -3.07, p < .01$)
- Standard 4 ($Z = -4.08, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between each of the four standards. No significant difference was found in the following:

- Standard 2 and Standard 3 ($Z = -0.31, p > .01$)
- Standard 2 and Standard 4 ($Z = -1.21, p > .01$)
- Standard 3 and Standard 4 ($Z = -1.21, p > .01$)

**Standards--Implementation**

A Friedman test was conducted to evaluate differences in participants’ perceptions of the level of implementation of the four standards as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (3, N = 305) = 81.63, p < .01$, and the Kendall coefficient of concordance of .089 indicated fairly strong differences among the four standards. Table 12 shows the descriptive statistics for the levels of implementation for the four standards. Table 13 presents the average mean rank of each variable from the Friedman test.
Table 12

*Standards-Implementation Descriptive Statistics*

<table>
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<tr>
<th>Standard</th>
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<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
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</thead>
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Table 13

*Standards-Implementation: Friedman Mean Ranks*

<table>
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<th>Standard</th>
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<td>3</td>
<td>2.16</td>
</tr>
<tr>
<td>4</td>
<td>2.64</td>
</tr>
</tbody>
</table>

The Standards were ranked in the following order using the respondents’ rating of their level of implementation of each Belief in their school library media program:

1. Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.

2. Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.

3. Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

4. Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the four standards. A significant difference was found in the school library media specialists’ level of implementation of Standard 3, which was less than the following:

- Standard 1 ($Z = -8.16, p < .01$)
- Standard 2 ($Z = -4.18, p < .01$)
- Standard 4 ($Z = -5.28, p < .01$).

Standard 1’s level of endorsement was found to be significantly greater than Standard 2 ($Z = -6.29, p < .01$).

The Wilcoxon test examined the results of the level of implementation between each of the four standards. No significant difference was found in the following:

- Standard 4 and Standard 1 ($Z = -2.11, p > .01$)
- Standard 4 and Standard 2 ($Z = -2.38, p > .01$)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each standard. As expected, a significant difference was found between the level of endorsement and the level which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all standards. Following are the results:

- Standard 1 ($Z = -13.67, p < .01$)
- Standard 2 ($Z = -14.08, p < .01$)
- Standard 3 ($Z = -14.13, p < .01$)
Standard 4 ($Z = -13.04, p < .01$)

**Standards Results Section Summary**

In this section the level of endorsement and the level of implementation, as perceived by school library media specialists of the four standards as found in *AASL’s Standards for the 21st-Century Learner* (ALA, 2007), were analyzed using nonparametric statistical tests. A Friedman test found significant differences in the level of endorsement between the standards. The results from the Wilcoxon test showed that Standard 1 was significantly greater than the other standards in the level of endorsement among the sample ($N = 305$) of school library media specialists. The same tests were used to analyze the level of implementation. Standard 3 was found to be significantly less than the other standards in the level of implementation among the sample of school library media specialists. The level of implementation for Standard 1 was found to be significantly greater than Standard 2. Finally, the Wilcoxon test was used to analyze the differences between the level of endorsement and the level of implementation of each standard. The level of endorsement was significantly greater than the level of implementation for all four standards. The next section will present the results for the demographic groups.

**Comparisons within Demographic Groups**

*School Level--Elementary, Middle, High*

A Kruskal-Wallis test was conducted comparing the level of endorsement of the nine beliefs for school library media specialists serving at the elementary ($N = 153$), middle ($N = 64$), and high ($N = 88$) school levels. A significant result was found for Belief 8 ($H(2) = 14.21, p < .01$), indicating that the level of endorsement from the school levels differed from each other. A
Mann-Whitney U test was conducted to evaluate the level of endorsement of the nine beliefs between the school levels. The level of endorsement for Belief 8 was found to be significantly lower for the group from the high school than the group from the elementary school level ($Z = -2.84, p < .01$). The high school group also ranked it significantly lower than the middle school group ($Z = -3.42, p < .01$). No significant differences in the results of the level of endorsement for the other Beliefs were noted by the Kruskal-Wallis or the Mann Whitney U ($p > .01$).

A Kruskal-Wallis test was conducted comparing the level of implementation of the nine beliefs for school library media specialists serving at the elementary ($N = 153$), middle ($N = 64$), and high ($N = 88$) school levels. A significant result was found for Belief 1 ($H(2) = 13.98, p < .01$) and Belief 8 ($H(2) = 9.66, p < .01$), indicating that the level of implementation of the beliefs from the school levels differed from each other. A Mann-Whitney U test was conducted to evaluate the level of implementation of the nine beliefs between the school levels. The level of implementation for Belief 1 was found to be significantly lower for the group from the high school than the group from the elementary school level ($Z = -3.62, p < .01$). The high school group ranked Belief 8 significantly lower than the middle school group ($Z = -3.05, p < .01$). No significant differences in the results for the level of implementation between the groups for the other beliefs were noted by the Kruskal-Wallis or the Mann Whitney U ($p > .01$).

A Kruskal-Wallis test was conducted comparing the level of endorsement of each of the four standards between the elementary, middle, and high school groups. No significant difference was found ($p > .01$), indicating that the groups did not differ significantly from each other in their level of endorsement of each standard.

A Kruskal-Wallis test was conducted comparing the level of implementation of each standard between the school groups. No significant difference was found ($p > .01$), indicating
that the groups did not differ significantly from each other in the implementation of each standard.

**Professional Organization Membership**

A Kruskal-Wallis test was conducted comparing the level of endorsement of the nine beliefs for the participants who were not a member of a professional school library media organization ($N = 83$), member of a state organization ($N = 154$), member of a national organization ($N = 11$), or member of both a state and a national organization ($N = 57$). No significant difference was found between any of the beliefs ($p > .01$), indicating that the groups did not differ significantly from each other in their level of endorsement of each belief.

A Kruskal-Wallis test was conducted comparing the level of implementation of the nine beliefs for the participants who were not a member of a professional school library media organization ($N = 83$), member of a state organization ($N = 154$), member of a national organization ($N = 11$), or member of both a state and a national organization ($N = 57$). No significant difference was found between any of the beliefs ($p > .01$), indicating that the groups did not differ significantly from each other in their level of implementation of each belief.

A Kruskal-Wallis test was conducted comparing the level of endorsement of each of the four standards between membership groups. No significant difference was found between any of the standards ($p > .01$), indicating that the groups did not differ significantly from each other in their level of endorsement of each standard.

A Kruskal-Wallis test was conducted comparing the level of implementation of each standard between the membership groups. No significant difference was found ($p > .01$) between
any of the standards, indicating that the groups did not differ significantly from each other in the implementation of each standard.

School Library Media Specialist--Years of Experience

A Kruskal-Wallis test was conducted comparing the level of endorsement of the nine beliefs for the respondents divided into three groups, with the years of experience as a school library media specialist providing the range. New library media specialist \( (N = 100) \) had less than 5 years experience. Mid-career library media specialists \( (N = 107) \) had between 6 and 12 years experience, and late-career library media specialists \( (N = 98) \) had more than 13 years experience. A significant result was found for Belief 3 \( (H(2) = 10.53, p < .01) \), indicating that the level of endorsement from the years of experience groups differed from each other. A Mann-Whitney \( U \) test was conducted to evaluate the level of endorsement of the nine beliefs between the school levels. The level of endorsement for Belief 3 was found to be significantly higher for the group from late career when compared to the group with less than 5 years experience in the school library media profession \( (Z = -3.19, p < .01) \). No significant differences in the results of the level of endorsement for the other beliefs among the three groups were noted by the Kruskal-Wallis or the Mann-Whitney \( U \) \((p > .01)\).

A Kruskal-Wallis test was conducted comparing the level of implementation of the nine beliefs for the respondents divided into three groups, with the years of experience as a school library media specialist providing the range. New library media specialist \( (N = 100) \) had less than 5 years experience. Mid-career library media specialists \( (N = 107) \) had between 6 and 12 years experience, and late-career library media specialists \( (N = 98) \) had more than 13 years experience. A significant result was found for Belief 2 \( (H(2) = 11.25, p < .01) \), indicating that the level of
implementation from the years of experience groups differed from each other. A Mann-Whitney
\( U \) test was conducted to evaluate the level of implementation of the nine beliefs between the
school levels. The level of implementation for Belief 2 was found to be significantly higher for
the group from late career when compared to the group with less than 5 years experience in the
school library media profession (\( Z = -2.94, p < .01 \)) and the group in mid-career (\( Z = -2.88, p < .01 \)). No significant differences in the results of the level of implementation for the other beliefs
among the three groups were noted by the Kruskal-Wallis or the Mann Whitney \( U (p > .01) \).

A Kruskal-Wallis test was conducted comparing the level of endorsement of each of the
four standards between the school library media years of experience groups. No significant
difference was found between any of the standards (\( p > .01 \)), indicating that the groups did not
differ significantly from each other in their level of endorsement of each standard.

A Kruskal-Wallis test was conducted comparing the level of implementation of each
standard between the school library media years of experience groups. No significant difference
was found (\( p > .01 \)) between any of the standards, indicating that the groups did not differ
significantly from each other in the implementation of each standard.

\textit{Prior Teaching Experience}

The participants were divided up into three groups to analyze the teaching experience that
had occurred before they began their library media specialist career. A Kruskal-Wallis test was
conducted comparing the level of endorsement of the nine beliefs for the participants with no
prior teaching (\( N = 94 \)), 1 to 7 years teaching experience (\( N = 105 \)), or more than 8 years
teaching experience (\( N = 106 \)). No significant difference was found between any of the beliefs
(p > .01), indicating that the groups did not differ significantly from each other in their level of endorsement of each belief.

A Kruskal-Wallis test was conducted comparing the level of implementation of the nine beliefs for the participants with no prior teaching (N = 94), 1 to 7 years teaching experience (N = 105), or more than 8 years teaching experience (N = 106). No significant difference was found between any of the beliefs (p > .01), indicating that the groups did not differ significantly from each other in their level of implementation of each belief.

A Kruskal-Wallis test was conducted comparing the level of endorsement of each of the four standards between the three groups. No significant difference was found between any of the standards (p > .01), indicating that the groups did not differ significantly from each other in their level of endorsement of each standard.

A Kruskal-Wallis test was conducted comparing the level of implementation of each standard between the three groups. No significant difference was found (p > .01) between any of the standards, indicating that the groups did not differ significantly from each other in the implementation of each standard.

**Demographic Results Section Summary**

The high school group ranked their level of endorsement of Belief 8 (Learning has a social context) significantly lower than the elementary school group and middle school group.

The elementary school group ranked their level of implementation of Belief 1 (Reading is a window to the world) significantly higher than the high school group. The middle school group ranked their level of implementation of Belief 8 significantly higher than the high school group.
The level of endorsement for Belief 3 (Ethical behavior in the use of information must be taught) was found to be significantly higher for the group from late career when compared to the group with less than 5 years experience in the school library media profession. The level of implementation for Belief 2 (Inquiry provides a framework for learning) was found to be significantly higher for the group from late career when compared to the group with less than 5 years experience in the school library media profession and the group in mid-career.

No significant difference was found between any of the other beliefs ($p > .01$), indicating that the groups did not differ significantly from each other in their level of endorsement or their level of implementation of the belief not mentioned. No significant difference was found ($p > .01$) between any of the standards, indicating that the groups did not differ significantly from each other in the level of endorsement or level of implementation of each standard in the analysis of any of the groups. The next section will contain the results from the four strands attached to each of the four standards.

Standard Strands

The *Standards for the 21st-Century Learner* are organized with the nine beliefs undergirding the four new standards. The beliefs feature two core approaches—reading and inquiry—which are embedded in each of the standards. The four standards are divided into four strands: skills, dispositions in action, responsibilities, and self-assessment. The participants were asked about their level of endorsement and level of implementation for each of these. Analyses were conducted to determine whether there was a significant relationship between the level of endorsement and the level of implementation similar to the results from the beliefs and standards. Each item in the strands was compared to its overlying standard to determine whether
there were significant differences when the responses to these strand items were compared with
the responses to each corresponding standard using the whole group responses \((N = 305)\).

*Standard 1: Skills*

*Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.*

1.1 Skills:

1.1.1 Follow an inquiry-based process in seeking knowledge in curricular subjects, and
make the real world connection for using this process in own life.

1.1.2 Use prior and background knowledge as context for new learning.

1.1.3 Develop and refine a range of questions to frame the search for new understanding.

1.1.4 Find, evaluate, and select appropriate sources to answer questions.

1.1.5 Evaluate information found in selected sources on the basis of accuracy, validity,
appropriateness for needs, importance, and social and cultural context.

1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual,
media, digital) in order to make inferences and gather meaning.

1.1.7 Make sense of information gathered from diverse sources by identifying
misconceptions, main and supporting ideas, conflicting information, and point of view or
bias.

1.1.8 Demonstrate mastery of technology tools for accessing information and pursuing
inquiry.

1.1.9 Collaborate with others to broaden and deepen understanding. (AASL, 2007, p. 3)
A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each skill in the strand for Standard One. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all the items in the skill strand for Standard One. Following are the results:

Standard One \((Z = -13.67, p < .01)\)

Skill 1.1.1 \((Z = -13.52, p < .01)\)

Skill 1.1.2 \((Z = -12.00, p < .01)\)

Skill 1.1.3 \((Z = -13.30, p < .01)\)

Skill 1.1.4 \((Z = -13.12, p < .01)\)

Skill 1.1.5 \((Z = -13.68, p < .01)\)

Skill 1.1.6 \((Z = -12.72, p < .01)\)

Skill 1.1.7 \((Z = -12.37, p < .01)\)

Skill 1.1.8 \((Z = -12.89, p < .01)\)

Skill 1.1.9 \((Z = -12.90, p < .01)\)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the skills strand in Standard 1 as listed in the Standards for the 21st-Century Learner. The test was significant, \(\chi^2 (9, N = 305) = 197.28, p < .01\), and the Kendall coefficient of concordance of .072 indicated fairly strong differences among the level of endorsement of skills in Standard 1. Table 14 shows the descriptive statistics for the levels of endorsement for the skills strand from Standard One. Table 15 presents the average mean rank of each variable from the Friedman test.
Table 14

*Standard 1: Skills-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
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Table 15

*Standard 1: Skills-Endorsement: Friedman Mean Ranks*

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<td>1.1.2</td>
<td>5.69</td>
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<tr>
<td>1.1.3</td>
<td>4.74</td>
</tr>
<tr>
<td>1.1.4</td>
<td>6.14</td>
</tr>
<tr>
<td>1.1.5</td>
<td>5.84</td>
</tr>
<tr>
<td>1.1.6</td>
<td>5.57</td>
</tr>
<tr>
<td>1.1.7</td>
<td>5.37</td>
</tr>
<tr>
<td>1.1.8</td>
<td>4.90</td>
</tr>
<tr>
<td>1.1.9</td>
<td>5.44</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the skills and Standard One. A significant difference was found in the school library media specialists’ level of endorsement of Standards 1, which was greater than most of the skills. The level of endorsement
for the following skills was ranked significantly less than the level of endorsement for Standard 1:

Skill 1.1.1 ($Z = -6.28, p < .01$)
Skill 1.1.2 ($Z = -3.35, p < .01$)
Skill 1.1.3 ($Z = -7.50, p < .01$)
Skill 1.1.5 ($Z = -3.06, p < .01$)
Skill 1.1.6 ($Z = -4.58, p < .01$)
Skill 1.1.7 ($Z = -5.60, p < .01$)
Skill 1.1.8 ($Z = -7.12, p < .01$)
Skill 1.1.9 ($Z = -4.65, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 1 and each of the skills. No significant difference was found in the following:

Skill 1.1.4 ($Z = -0.61, p > .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the skills strand in Standard 1 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (9, N = 305) = 283.90, p < .01$, and the Kendall coefficient of concordance of .103 indicated fairly strong differences among the level of implementation of skills in Standard 1. Table 16 shows the descriptive statistics for the levels of implementation for the skills strand from Standard 1. Table 17 presents the average mean rank of each variable from the Friedman test.
Table 16

*Standard 1: Skills-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
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<tr>
<td>1</td>
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<td>2</td>
<td>7</td>
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<td>305</td>
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<td>1.389</td>
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<td>305</td>
<td>5.60</td>
<td>1.111</td>
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<td>7</td>
</tr>
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<td>305</td>
<td>4.50</td>
<td>1.480</td>
<td>1</td>
<td>7</td>
</tr>
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<td>305</td>
<td>5.45</td>
<td>1.175</td>
<td>3</td>
<td>7</td>
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<tr>
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<td>1.448</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.1.7</td>
<td>305</td>
<td>4.89</td>
<td>1.448</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.1.8</td>
<td>305</td>
<td>4.80</td>
<td>1.450</td>
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<td>7</td>
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<td>1.1.9</td>
<td>305</td>
<td>5.11</td>
<td>1.429</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 17

*Standard 1: Skills-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.31</td>
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<tr>
<td>1.1.1</td>
<td>4.68</td>
</tr>
<tr>
<td>1.1.2</td>
<td>6.78</td>
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<tr>
<td>1.1.3</td>
<td>3.98</td>
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<tr>
<td>1.1.4</td>
<td>6.48</td>
</tr>
<tr>
<td>1.1.5</td>
<td>5.32</td>
</tr>
<tr>
<td>1.1.6</td>
<td>5.65</td>
</tr>
<tr>
<td>1.1.7</td>
<td>5.15</td>
</tr>
<tr>
<td>1.1.8</td>
<td>4.98</td>
</tr>
<tr>
<td>1.1.9</td>
<td>5.68</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the skills and Standard 1. A significant difference was found in the school library media specialists’ level of implementation of Standard 1 which was greater than most of the skills. The level of
implementation for the following skills was ranked significantly less than the level of implementation for Standard 1:

- Skill 1.1.1 ($Z = -6.69, p < .01$)
- Skill 1.1.3 ($Z = -8.62, p < .01$)
- Skill 1.1.5 ($Z = -4.77, p < .01$)
- Skill 1.1.6 ($Z = -3.24, p < .01$)
- Skill 1.1.7 ($Z = -5.34, p < .01$)
- Skill 1.1.8 ($Z = -6.10, p < .01$)

The Wilcoxon test examined the results of the level of implementation between Standard 1 and each of the skills. No significant difference was found in the following:

- Skill 1.1.2 ($Z = -2.68, p > .01$)
- Skill 1.1.4 ($Z = -0.61, p > .01$)
- Skill 1.1.9 ($Z = -2.89, p > .01$)

**Standard 1: Dispositions in Action**

**Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.**

1.2 Dispositions in action:

1.2.1 Display initiative and engagement by posing questions and investigating the answers beyond the collection of superficial facts.

1.2.2 Demonstrate confidence and self-direction by making independent choices in the selection of resources and information.

1.2.3 Demonstrate creativity by using multiple resources and formats.
1.2.4 Maintain a critical stance by questioning validity and accuracy of all information.

1.2.5 Demonstrate adaptability by changing the inquiry focus, questions, resources, or strategies when necessary to achieve success.

1.2.6 Display emotional resilience by persisting in information searching despite challenges.

1.2.7 Display persistence by continuing to pursue information to gain a broad perceptive.

(AASL, 2007, p. 3)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Disposition in Action in the strand for Standard 1. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the Disposition in Action strand for Standard 1. Following are the results:

Standard One ($Z = -13.67, p < .01$)

Disposition in Action 1.2.1 ($Z = -13.68, p < .01$)

Disposition in Action 1.2.2 ($Z = -13.01, p < .01$)

Disposition in Action 1.2.3 ($Z = -12.56, p < .01$)

Disposition in Action 1.2.4 ($Z = -13.73, p < .01$)

Disposition in Action 1.2.5 ($Z = -13.72, p < .01$)

Disposition in Action 1.2.6 ($Z = -12.76, p < .01$)

Disposition in Action 1.2.7 ($Z = -13.46, p < .01$)
A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the dispositions in action strand in Standard 1 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (7, N = 305) = 100.47, p < .01$, and the Kendall coefficient of concordance of .047 indicated fairly strong differences among the level of endorsement of dispositions in action in Standard 1. Table 18 shows the descriptive statistics for the levels of endorsement for the dispositions in action strand from Standard 1. Table 19 presents the average mean rank of each variable from the Friedman test.

Table 18

*Standard 1: Dispositions in Action-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>$M$</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>305</td>
<td>6.87</td>
<td>.437</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>1.2.1</td>
<td>305</td>
<td>6.37</td>
<td>1.084</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>1.2.2</td>
<td>305</td>
<td>6.50</td>
<td>.974</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>1.2.3</td>
<td>305</td>
<td>6.49</td>
<td>.957</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.2.4</td>
<td>305</td>
<td>6.67</td>
<td>.865</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.2.5</td>
<td>305</td>
<td>6.51</td>
<td>1.036</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.2.6</td>
<td>305</td>
<td>6.47</td>
<td>.960</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>1.2.7</td>
<td>305</td>
<td>6.52</td>
<td>.843</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 19

*Standard 1: Dispositions in Action-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>1.2.1</td>
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<td>1.2.2</td>
<td>4.51</td>
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<tr>
<td>1.2.3</td>
<td>4.29</td>
</tr>
<tr>
<td>1.2.4</td>
<td>4.75</td>
</tr>
<tr>
<td>1.2.5</td>
<td>4.40</td>
</tr>
<tr>
<td>1.2.6</td>
<td>4.33</td>
</tr>
<tr>
<td>1.2.7</td>
<td>4.39</td>
</tr>
</tbody>
</table>
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the dispositions in action and Standard 1. A significant difference was found in the school library media specialists’ level of endorsement of Standards 1, which was greater than all of the dispositions in action. The level of endorsement for the following dispositions in action was ranked significantly less than the level of endorsement for Standard 1:

- Disposition in Action 1.2.1 ($Z = -7.31, p < .01$)
- Disposition in Action 1.2.2 ($Z = -6.14, p < .01$)
- Disposition in Action 1.2.3 ($Z = -6.61, p < .01$)
- Disposition in Action 1.2.4 ($Z = -3.80, p < .01$)
- Disposition in Action 1.2.5 ($Z = -5.95, p < .01$)
- Disposition in Action 1.2.6 ($Z = -6.72, p < .01$)
- Disposition in Action 1.2.7 ($Z = -6.45, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the dispositions in action strand in Standard 1 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (7, N = 305) = 267.45, p < .01$, and the Kendall coefficient of concordance of .125 indicated fairly strong differences among the level of implementation of dispositions in action in Standard 1. Table 20 shows the descriptive statistics for the levels of implementation for the dispositions in action strand from Standard 1. Table 21 presents the average mean rank of each variable from the Friedman test.
Table 20

*Standard 1: Dispositions in Action-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>305</td>
<td>5.40</td>
<td>1.063</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.2.1</td>
<td>305</td>
<td>4.16</td>
<td>1.360</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.2.2</td>
<td>305</td>
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<td>1.368</td>
<td>1</td>
<td>7</td>
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<tr>
<td>1.2.3</td>
<td>305</td>
<td>4.85</td>
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<td>1</td>
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<tr>
<td>1.2.4</td>
<td>305</td>
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<td>1.434</td>
<td>2</td>
<td>7</td>
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<td>1.2.5</td>
<td>305</td>
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<td>1.497</td>
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<td>7</td>
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<tr>
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<td>4.90</td>
<td>1.408</td>
<td>2</td>
<td>7</td>
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<td>1.2.7</td>
<td>305</td>
<td>4.66</td>
<td>1.418</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 21

*Standard 1: Dispositions in Action-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1.2.2</td>
<td>4.83</td>
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<tr>
<td>1.2.3</td>
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<tr>
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</tr>
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<td>1.2.5</td>
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<td>1.2.6</td>
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</tr>
<tr>
<td>1.2.7</td>
<td>4.30</td>
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</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the dispositions in action and Standard 1. A significant difference was found in the school library media specialists’ level of implementation of Standard 1, which was greater than all of the dispositions in action. The level of implementation for the following dispositions in action was ranked significantly less than the level of implementation for Standard 1:
Disposition in Action 1.2.1 ($Z = -11.30, p < .01$)
Disposition in Action 1.2.2 ($Z = -4.98, p < .01$)
Disposition in Action 1.2.3 ($Z = -5.16, p < .01$)
Disposition in Action 1.2.4 ($Z = -7.18, p < .01$)
Disposition in Action 1.2.5 ($Z = -8.16, p < .01$)
Disposition in Action 1.2.6 ($Z = -5.16, p < .01$)
Disposition in Action 1.2.7 ($Z = -7.27, p < .01$)

Standard 1: Responsibilities

Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.

1.3 Responsibilities:

1.3.1 Respect copyright/intellectual property rights of creators and producers.
1.3.2 Seek divergent perspectives during information gathering and assessment.
1.3.3 Follow ethical and legal guidelines in gathering and using information.
1.3.4 Contribute to the exchange of ideas within the learning community.
1.3.5 Use information technology responsibly. (AASL, 2007, p. 3)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Responsibility in the strand for Standard 1. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of
implementation for all of the items in the Responsibility strand for Standard 1. Following are the results:

Standard One \( (Z = -13.67, p < .01) \)

Responsibility 1.3.1 \( (Z = -11.15, p < .01) \)

Responsibility 1.3.2 \( (Z = -13.21, p < .01) \)

Responsibility 1.3.3 \( (Z = -11.87, p < .01) \)

Responsibility 1.3.4 \( (Z = -12.84, p < .01) \)

Responsibility 1.3.5 \( (Z = -11.26, p < .01) \)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the responsibilities strand in Standard 1 as listed in the Standards for the 21st-Century Learner. The test was significant, \( \chi^2 (5, N = 305) = 151.58, p < .01 \), and the Kendall coefficient of concordance of .099 indicated fairly strong differences among the level of endorsement of responsibilities in Standard 1. Table 22 shows the descriptive statistics for the levels of endorsement for the responsibilities strand from Standard 1. Table 23 presents the average mean rank of each variable from the Friedman test.

Table 22

<table>
<thead>
<tr>
<th>Standard</th>
<th>( N )</th>
<th>( M )</th>
<th>( SD )</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>305</td>
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<td>7</td>
</tr>
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<td>305</td>
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</tr>
<tr>
<td>1.3.2</td>
<td>305</td>
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<td>1.198</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.3.3</td>
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<td>.725</td>
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<td>7</td>
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<td>1.3.4</td>
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<td>7</td>
</tr>
</tbody>
</table>
Table 23

*Standard 1: Responsibilities-Endorsement: Friedman Mean Ranks*

<table>
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<tr>
<th>Standard</th>
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</tr>
</thead>
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<td>1.3.2</td>
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</tr>
<tr>
<td>1.3.3</td>
<td>3.68</td>
</tr>
<tr>
<td>1.3.4</td>
<td>3.21</td>
</tr>
<tr>
<td>1.3.5</td>
<td>3.69</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the responsibilities and Standard 1. A significant difference was found in the school library media specialists’ level of endorsement of Standard 1, which was greater than some of the responsibilities. The level of endorsement for the following responsibilities was ranked significantly less than the level of endorsement for Standard 1:

- Responsibility 1.3.2 \( (Z = -6.96, p < .01) \)
- Responsibility 1.3.4 \( (Z = -5.49, p < .01) \)

The Wilcoxon test examined the results of the level of endorsement between Standard 1 and each of the responsibilities. No significant difference was found in the following:

- Responsibility 1.3.1 \( (Z = -0.64, p > .01) \)
- Responsibility 1.3.3 \( (Z = -1.02, p > .01) \)
- Responsibility 1.3.5 \( (Z = -1.06, p > .01) \)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the responsibilities strand in Standard 1 as listed in the
Standards for the 21st-Century Learner. The test was significant, $\chi^2 (9, N = 305) = 265.90, p < .01$, and the Kendall coefficient of concordance of .174 indicated fairly strong differences among the level of implementation of responsibilities in Standard 1. Table 24 shows the descriptive statistics for the levels of implementation for the responsibilities strand from Standard 1. Table 25 presents the average mean rank of each variable from the Friedman test.

Table 24

**Standard 1: Responsibilities-Implementation Descriptive Statistics**

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>305</td>
<td>5.40</td>
<td>1.063</td>
<td>2</td>
<td>7</td>
</tr>
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<td>1.3.1</td>
<td>305</td>
<td>5.77</td>
<td>1.253</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.3.2</td>
<td>305</td>
<td>4.58</td>
<td>1.332</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.3.3</td>
<td>305</td>
<td>5.76</td>
<td>1.338</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.3.4</td>
<td>305</td>
<td>5.05</td>
<td>1.539</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.3.5</td>
<td>305</td>
<td>5.80</td>
<td>1.334</td>
<td>2</td>
<td>7</td>
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</table>

Table 25

**Standard 1: Responsibilities-Implementation: Friedman Mean Ranks**

<table>
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<tr>
<th>Standard</th>
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</tr>
</thead>
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<tr>
<td>1.3.3</td>
<td>4.04</td>
</tr>
<tr>
<td>1.3.4</td>
<td>3.03</td>
</tr>
<tr>
<td>1.3.5</td>
<td>4.08</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the
responsibilities and Standard 1. A significant difference was found in the school library media
specialists’ level of implementation of Standards 1, which was significantly greater than the
following responsibilities:

   Responsibility 1.3.1 ($Z = -3.99, p < .01$)
   Responsibility 1.3.3 ($Z = -4.08 p < .01$)
   Responsibility 1.3.5 ($Z = -8.16, p < .01$)

The level of implementation for the following responsibility was ranked significantly greater
than the level of implementation for Standard 1:

   Responsibility 1.3.2 ($Z = -8.52, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 1 and each
of the responsibilities. No significant difference was found in the following:

   Responsibility 1.3.4 ($Z = -3.17, p > .01$)

Standard 1: Self-Assessment Strategies

   Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain
knowledge.

1.4 Self-Assessment Strategies:

1.4.1 Monitor own information-seeking processes for effectiveness and progress, and
adapt as necessary.

1.4.2 Use interaction with and feedback from teachers and peers to guide own inquiry
process.

1.4.3 Monitor gathered information and assess for gaps or weaknesses.

1.4.4 Seek appropriate help when it is needed. (AASL, 2007, p. 3)
A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Self-Assessment in the self assessment strand for Standard 1. As expected, a significant difference was found between the level of endorsement and the level at which the standard was actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all the items in the self-assessment strand for Standard 1. Following are the results:

- Standard 1 ($Z = -13.67, p < .01$)
- Self-Assessment 1.4.1 ($Z = -13.10, p < .01$)
- Self-Assessment 1.4.2 ($Z = -12.76, p < .01$)
- Self-Assessment 1.4.3 ($Z = -12.52, p < .01$)
- Self-Assessment 1.4.4 ($Z = -10.26, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the self-assessments strand in Standard 1 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (4, N = 305) = 141.32, p < .01$, and the Kendall coefficient of concordance of .116 indicated fairly strong differences among the level of endorsement of self-assessments in Standard 1. Table 26 shows the descriptive statistics for the levels of endorsement for the self-assessments strand from Standard 1. Table 27 presents the average mean rank of each variable from the Friedman test.
Table 26

*Standard 1: Self-Assessments-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>(N)</th>
<th>(M)</th>
<th>(SD)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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<td>6.87</td>
<td>.437</td>
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<td>7</td>
</tr>
<tr>
<td>1.4.1</td>
<td>305</td>
<td>6.61</td>
<td>.875</td>
<td>3</td>
<td>7</td>
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<tr>
<td>1.4.2</td>
<td>305</td>
<td>6.60</td>
<td>.955</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.4.3</td>
<td>305</td>
<td>6.32</td>
<td>1.133</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.4.4</td>
<td>305</td>
<td>6.83</td>
<td>.584</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 27

*Standard 1: Self-Assessments-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3.28</td>
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<tr>
<td>1.4.1</td>
<td>2.95</td>
</tr>
<tr>
<td>1.4.2</td>
<td>2.93</td>
</tr>
<tr>
<td>1.4.3</td>
<td>2.57</td>
</tr>
<tr>
<td>1.4.4</td>
<td>3.28</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the self-assessments and Standard 1. A significant difference was found in the school library media specialists’ level of endorsement of Standard 1, which was greater than most of the self-assessments. The level of endorsement for the following self-assessments was ranked significantly less than the level of endorsement for Standard 1:

- Self-Assessment 1.4.1 \((Z = -4.88, p < .01)\)
- Self-Assessment 1.4.2 \((Z = -4.77, p < .01)\)
- Self-Assessment 1.4.3 \((Z = -7.46, p < .01)\)
The Wilcoxon test examined the results of the level of endorsement between Standard One and each of the self-assessments. No significant difference was found in the following:

Self-Assessment 1.4.4 ($Z = -1.19, p > .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the self-assessments strand in Standard 1 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (9, N = 305) = 255.04, p < .01$, and the Kendall coefficient of concordance of .209 indicated fairly strong differences among the level of implementation of self-assessments in Standard 1. Table 28 shows the descriptive statistics for the levels of implementation for the self-assessments strand from Standard 1. Table 29 presents the average mean rank of each variable from the Friedman test.

Table 28

*Standard 1: Self-Assessments-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>305</td>
<td>5.40</td>
<td>1.063</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>1.4.1</td>
<td>305</td>
<td>4.89</td>
<td>1.627</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.4.2</td>
<td>305</td>
<td>4.97</td>
<td>1.577</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.4.3</td>
<td>305</td>
<td>4.56</td>
<td>1.671</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>1.4.4</td>
<td>305</td>
<td>6.05</td>
<td>1.222</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 29

*Standard 1: Self-Assessments-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.13</td>
</tr>
<tr>
<td>1.4.1</td>
<td>2.70</td>
</tr>
<tr>
<td>1.4.2</td>
<td>2.79</td>
</tr>
<tr>
<td>1.4.3</td>
<td>2.35</td>
</tr>
<tr>
<td>1.4.4</td>
<td>4.03</td>
</tr>
</tbody>
</table>
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the self-assessments and Standard 1. A significant difference was found in the school library media specialists’ level of implementation of Standard 1, which was significantly greater than the following self-assessments.

- Self-Assessment 1.4.1 \((Z = -4.60, p < .01)\)
- Self-Assessment 1.4.2 \((Z = -4.17, p < .01)\)
- Self-Assessment 1.4.3 \((Z = -7.16, p < .01)\)

The level of implementation for the following self-assessment was ranked significantly greater than the level of implementation for Standard 1:

- Self-Assessment 1.4.4 \((Z = -6.72, p < .01)\)

Standard 2: Skills

Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

2.1 Skills:

2.1.1 Continue an inquiry-based research process by applying critical-thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.

2.1.2 Organize knowledge so that is useful.

2.1.3 Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations.
2.1.4 Use technology and other information tools to analyze and organize information.

2.1.5 Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.

2.1.6 Use the writing process, media and visual literacy, and technology skills to create products that express new understandings. (AASL, 2007, p. 4)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each skill in the strand for Standard 2. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the skill strand for Standard 2. Following are the results:

Standard 2 ($Z = -14.08, p < .01$)
Skill 2.1.1 ($Z = -14.22, p < .01$)
Skill 2.1.2 ($Z = -13.95, p < .01$)
Skill 2.1.3 ($Z = -14.15, p < .01$)
Skill 2.1.4 ($Z = -12.46, p < .01$)
Skill 2.1.5 ($Z = -14.54, p < .01$)
Skill 2.1.6 ($Z = -13.90, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the skills strand in Standard 2 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (6, N = 305) = 67.56, p < .01$, and the Kendall coefficient of concordance of .037 indicated fairly strong differences among the level of endorsement of skills in Standard 2. Table 30 shows the descriptive statistics for the levels of
endorsement for the skills strand from Standard 2. Table 31 presents the average mean rank of each variable from the Friedman test.

Table 30

*Standard 2: Skills-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>6.77</td>
<td>.590</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2.1.1</td>
<td>305</td>
<td>6.88</td>
<td>.391</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2.1.2</td>
<td>305</td>
<td>6.90</td>
<td>.375</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>2.1.3</td>
<td>305</td>
<td>6.74</td>
<td>.591</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>2.1.4</td>
<td>305</td>
<td>6.68</td>
<td>.863</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.1.5</td>
<td>305</td>
<td>6.72</td>
<td>.666</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.1.6</td>
<td>305</td>
<td>6.81</td>
<td>.533</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 31

*Standard 2: Skills-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.94</td>
</tr>
<tr>
<td>2.1.1</td>
<td>4.24</td>
</tr>
<tr>
<td>2.1.2</td>
<td>4.29</td>
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<tr>
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<tr>
<td>2.1.4</td>
<td>3.86</td>
</tr>
<tr>
<td>2.1.5</td>
<td>3.79</td>
</tr>
<tr>
<td>2.1.6</td>
<td>4.03</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the skills and Standard 2. A significant difference was found in the school library media specialists’ level of endorsement of Standard 2, which was greater than most of the skills. The level of endorsement
for the following skills was ranked significantly less than the level of endorsement for Standard 2:

- Skill 2.1.1 ($Z = -2.80, p < .01$)
- Skill 2.1.2 ($Z = -3.12, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 2 and each of the skills. No significant difference was found in the following:

- Skill 2.1.3 ($Z = -0.79, p > .01$)
- Skill 2.1.4 ($Z = -1.68, p > .01$)
- Skill 2.1.5 ($Z = -0.98, p > .01$)
- Skill 2.1.6 ($Z = -1.02, p > .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the skills strand in Standard 1 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (6, N = 305) = 74.36, p < .01$, and the Kendall coefficient of concordance of .041 indicated fairly strong differences among the level of implementation of skills in Standard 2. Table 32 shows the descriptive statistics for the levels of implementation for the skills strand from Standard 2. Table 33 presents the average mean rank of each variable from the Friedman test.

Table 32

*Standard 2: Skills-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>5.04</td>
<td>1.123</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2.1.1</td>
<td>305</td>
<td>5.29</td>
<td>1.112</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.1.2</td>
<td>305</td>
<td>5.33</td>
<td>1.202</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2.1.3</td>
<td>305</td>
<td>5.01</td>
<td>1.234</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.1.4</td>
<td>305</td>
<td>5.32</td>
<td>1.415</td>
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<td>7</td>
</tr>
<tr>
<td>2.1.5</td>
<td>305</td>
<td>5.10</td>
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<td>7</td>
</tr>
<tr>
<td>2.1.6</td>
<td>305</td>
<td>4.91</td>
<td>1.383</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 33

*Standard 2: Skills-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
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<tr>
<td>2.1.2</td>
<td>4.41</td>
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<td>2.1.3</td>
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<td>2.1.4</td>
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<td>2.1.5</td>
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<td>2.1.6</td>
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Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the skills and Standard 2. A significant difference was found in the school library media specialists’ level of implementation of Standard 2, which was greater than most of the skills. The level of implementation for the following skills was ranked significantly less than the level of implementation for Standard 2:

Skill 2.1.1 \((Z = -3.26, p < .01)\)

Skill 2.1.2 \((Z = -3.23, p < .01)\)

Skill 2.1.4 \((Z = -3.06, p < .01)\)

The Wilcoxon test examined the results of the level of implementation between Standard 2 and each of the skills. No significant difference was found in the following:

Skill 2.1.3 \((Z = -0.37, p > .01)\)

Skill 2.1.5 \((Z = -0.43, p > .01)\)

Skill 2.1.6 \((Z = -1.45, p > .01)\)
Standard 2: Dispositions in Action

Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

2.2 Dispositions in Action:

2.2.1 Demonstrate flexibility in the use of resources by adapting information strategies to each specific resource and by seeking additional resources when clear conclusions cannot be drawn.

2.2.2 Use both divergent and convergent thinking to formulate alternative conclusions and test them against the evidence.

2.2.3 Employ a critical stance in drawing conclusions by demonstrating that the pattern of evidence leads to a decision or conclusion

2.2.4 Demonstrate personal productivity by completing products to express learning.

(AASL, 2007, p. 4)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Disposition in Action in the strand for Standard 2. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the Disposition in Action strand for Standard 2. Following are the results:

Standard 2 (Z = -14.08, p < .01)

Disposition in Action 2.2.1 (Z = -14.31, p < .01)

Disposition in Action 2.2.2 (Z = -14.54, p < .01)
Disposition in Action 2.2.3 ($Z = -14.50, p < .01$)

Disposition in Action 2.2.4 ($Z = -13.98, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the dispositions in action strand in Standard 2 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (4, N = 305) = 64.80, p < .01$, and the Kendall coefficient of concordance of .053 indicated fairly strong differences among the level of endorsement of dispositions in action in Standard 2. Table 34 shows the descriptive statistics for the levels of endorsement for the dispositions in action strand from Standard 2. Table 35 presents the average mean rank of each variable from the Friedman test.

Table 34

Standard 2: Dispositions in Action-Endorsement Descriptive Statistics

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>6.77</td>
<td>.590</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2.2.1</td>
<td>305</td>
<td>6.77</td>
<td>.596</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.2.2</td>
<td>305</td>
<td>6.43</td>
<td>1.154</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.2.3</td>
<td>305</td>
<td>6.64</td>
<td>.736</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.2.4</td>
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<td>.557</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 35

Standard 2: Dispositions in Action-Endorsement: Friedman Mean Ranks

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.13</td>
</tr>
<tr>
<td>2.2.1</td>
<td>3.13</td>
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<tr>
<td>2.2.2</td>
<td>2.71</td>
</tr>
<tr>
<td>2.2.3</td>
<td>2.90</td>
</tr>
<tr>
<td>2.2.4</td>
<td>3.13</td>
</tr>
</tbody>
</table>
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the dispositions in action and Standard 2. A significant difference was found in the school library media specialists’ level of endorsement of Standards 2, which was greater than all of the dispositions in action. The level of endorsement for the following dispositions in action was ranked significantly less than the level of endorsement for Standard 2:

- Disposition in Action 2.2.2 ($Z = -4.85, p < .01$)
- Disposition in Action 2.2.3 ($Z = -2.62, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 2 and each of the dispositions in action. No significant difference was found in the following:

- Disposition in Action 2.2.1 ($Z = -0.04, p > .01$)
- Disposition in Action 2.2.4 ($Z = -0.09, p > .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the dispositions in action strand in Standard 2 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (4, N=305) = 348.85, p < .01$, and the Kendall coefficient of concordance of .286 indicated fairly strong differences among the level of implementation of dispositions in action in Standard 2. Table 36 shows the descriptive statistics for the levels of implementation for the dispositions in action strand from Standard 2. Table 37 presents the average mean rank of each variable from the Friedman test.
Table 36

*Standard 2: Dispositions in Action-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>(N)</th>
<th>(M)</th>
<th>(SD)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>5.04</td>
<td>1.123</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2.2.1</td>
<td>305</td>
<td>4.44</td>
<td>1.385</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.2.2</td>
<td>305</td>
<td>3.71</td>
<td>1.651</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.2.3</td>
<td>305</td>
<td>3.76</td>
<td>1.715</td>
<td>1</td>
<td>7</td>
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<td>2.2.4</td>
<td>305</td>
<td>4.64</td>
<td>1.834</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 37

*Standard 2: Dispositions in Action-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.72</td>
</tr>
<tr>
<td>2.2.1</td>
<td>3.09</td>
</tr>
<tr>
<td>2.2.2</td>
<td>2.23</td>
</tr>
<tr>
<td>2.2.3</td>
<td>2.29</td>
</tr>
<tr>
<td>2.2.4</td>
<td>3.68</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the dispositions in action and Standard 2. A significant difference was found in the school library media specialists’ level of implementation of Standard 2, which was greater than all of the dispositions in action. The level of implementation for the following dispositions in action was ranked significantly less than the level of implementation for Standard 2:

- Disposition in Action 2.2.1 \((Z = -5.92, p < .01)\)
- Disposition in Action 2.2.2 \((Z = -10.27, p < .01)\)
- Disposition in Action 2.2.3 \((Z = -9.77, p < .01)\)
The Wilcoxon test examined the results of the level of endorsement between Standard 2 and each of the dispositions in action. No significant difference was found in the following:

Disposition in Action 2.2.4 \( (Z = -3.15, p > .01) \)

**Standard 2: Responsibilities**

*Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.*

2.3 Responsibilities:

2.3.1 Connect understanding to the real world.

2.3.2 Consider diverse and global perspectives in drawing conclusions.

2.3.3 Use valid information and reasoned conclusions to make ethical decisions. (AASL, 2007, p. 4)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Responsibility in the strand for Standard 2. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all the items in the Responsibility strand for Standard 2. Following are the results:

Standard 2 \( (Z = -14.08, p < .01) \)

Responsibility 2.3.1 \( (Z = -13.23, p < .01) \)

Responsibility 2.3.2 \( (Z = -12.60, p < .01) \)

Responsibility 2.3.3 \( (Z = -14.13, p < .01) \)
A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the responsibilities strand in Standard 1 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (3, N = 305) = 40.33, p < .01$, and the Kendall coefficient of concordance of .044 indicated fairly strong differences among the level of endorsement of responsibilities in Standard 1. Table 38 shows the descriptive statistics for the levels of endorsement for the responsibilities strand from Standard 2. Table 39 presents the average mean rank of each variable from the Friedman test.

Table 38

*Standard 2: Responsibilities-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>6.77</td>
<td>.590</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2.3.1</td>
<td>305</td>
<td>6.78</td>
<td>.604</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2.3.2</td>
<td>305</td>
<td>6.50</td>
<td>.987</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.3.3</td>
<td>305</td>
<td>6.72</td>
<td>.632</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 39

*Standard 2: Responsibilities-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2.58</td>
</tr>
<tr>
<td>2.3.1</td>
<td>2.59</td>
</tr>
<tr>
<td>2.3.2</td>
<td>2.29</td>
</tr>
<tr>
<td>2.3.3</td>
<td>2.53</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the responsibilities and Standard 2. A significant difference was found in the school library media
specialists’ level of endorsement of Standard 2, which was greater than one of the responsibilities. The level of endorsement for the following responsibility was ranked significantly less than the level of endorsement for Standard 2:

   Responsibility 2.3.2 \( (Z = -4.13, p < .01) \)

The Wilcoxon test examined the results of the level of endorsement between Standard 2 and each of the responsibilities. No significant difference was found in the following:

   Responsibility 2.3.1 \( (Z = -0.17, p > .01) \)

   Responsibility 2.3.3 \( (Z = -0.99, p > .01) \)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the responsibilities strand in Standard 2 as listed in the Standards for the 21st-Century Learner. The test was significant, \( \chi^2 (3, N = 305) = 33.06, p < .01 \), and the Kendall coefficient of concordance of .036 indicated fairly strong differences among the level of implementation of responsibilities in Standard 2. Table 40 shows the descriptive statistics for the levels of implementation for the responsibilities strand from Standard 2. Table 41 presents the average mean rank of each variable from the Friedman test.

Table 40

<table>
<thead>
<tr>
<th>Standard</th>
<th>( N )</th>
<th>( M )</th>
<th>( SD )</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>5.04</td>
<td>1.123</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2.3.1</td>
<td>305</td>
<td>5.02</td>
<td>1.522</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2.3.2</td>
<td>305</td>
<td>4.73</td>
<td>1.790</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.3.3</td>
<td>305</td>
<td>4.51</td>
<td>1.518</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 41

*Standard 2: Responsibilities-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2.64</td>
</tr>
<tr>
<td>2.3.1</td>
<td>2.71</td>
</tr>
<tr>
<td>2.3.2</td>
<td>2.38</td>
</tr>
<tr>
<td>2.3.3</td>
<td>2.27</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the responsibilities and Standard 2. A significant difference was found in the school library media specialists’ level of implementation of Standards 2, which was significantly greater than the following responsibilities:

- Responsibility 2.3.2 ($Z = -2.58, p < .01$)
- Responsibility 2.3.3 ($Z = -4.99, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 2 and each of the responsibilities. No significant difference was found in the following:

- Responsibility 2.3.1 ($Z = -0.09, p > .01$)

*Standard 2: Self-Assessment Strategies*

*Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.*

2.4 Self-Assessment Strategies:

2.4.1 Determine how to act on information (accept, reject, modify).

2.4.2 Reflect on systematic process, and assess for completeness of investigation.
2.4.3 Recognize new knowledge and understanding.

2.4.4 Develop directions for future investigations. (AASL, 2007, p. 4)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Self-Assessment in the self-assessment strand for Standard 2. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the self-assessment strand for Standard 2. Following are the results:

- Standard 2 ($Z = -14.08, p < .01$)
- Self-Assessment 2.4.1 ($Z = -14.51, p < .01$)
- Self-Assessment 2.4.2 ($Z = -14.44, p < .01$)
- Self-Assessment 2.4.3 ($Z = -13.17, p < .01$)
- Self-Assessment 2.4.4 ($Z = -14.24, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the self-assessments strand in Standard 2 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (4, N = 305) = 67.88, p < .01$, and the Kendall coefficient of concordance of .056 indicated fairly strong differences among the level of endorsement of self-assessments in Standard 2. Table 42 shows the descriptive statistics for the levels of endorsement for the self-assessments strand from Standard 2. Table 43 presents the average mean rank of each variable from the Friedman test.
Table 42

*Standard 2: Self-Assessments-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>6.77</td>
<td>.590</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>2.4.1</td>
<td>305</td>
<td>6.83</td>
<td>.531</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.4.2</td>
<td>305</td>
<td>6.68</td>
<td>.792</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.4.3</td>
<td>305</td>
<td>6.87</td>
<td>.482</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>2.4.4</td>
<td>305</td>
<td>6.51</td>
<td>1.156</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 43

*Standard 2: Self-Assessments-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.02</td>
</tr>
<tr>
<td>2.4.1</td>
<td>3.13</td>
</tr>
<tr>
<td>2.4.2</td>
<td>2.92</td>
</tr>
<tr>
<td>2.4.3</td>
<td>3.21</td>
</tr>
<tr>
<td>2.4.4</td>
<td>2.72</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the self-assessments and Standard 2. A significant difference was found in the school library media specialists’ level of endorsement of Standard 2, which was less than one of the self-assessments. The level of endorsement for the following self-assessment was ranked significantly greater than the level of endorsement for Standard 2:

Self-Assessment 2.4.4 ($Z = -3.16, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 2 and each of the self-assessments. No significant difference was found in the following:

Self-Assessment 2.4.1 ($Z = -1.21, p > .01$)
Self-Assessment 2.4.2 \( (Z = -1.83, \ p > .01) \)

Self-Assessment 2.4.3 \( (Z = -2.48, \ p > .01) \)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the self-assessments strand in Standard 2 as listed in the *Standards for the 21st-Century Learner*. The test was significant, \( \chi^2 (4, \ N = 305) = 311.76, \ p < .01 \), and the Kendall coefficient of concordance of .256 indicated fairly strong differences among the level of implementation of self-assessments in Standard 2. Table 44 shows the descriptive statistics for the levels of implementation for the self-assessments strand from Standard 2. Table 45 presents the average mean rank of each variable from the Friedman test.

Table 44

*Standard 2: Self-Assessments-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>305</td>
<td>5.04</td>
<td>1.123</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>2.4.1</td>
<td>305</td>
<td>4.30</td>
<td>1.262</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.4.2</td>
<td>305</td>
<td>3.90</td>
<td>1.380</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2.4.3</td>
<td>305</td>
<td>4.93</td>
<td>1.590</td>
<td>1</td>
<td>7</td>
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<td>2.4.4</td>
<td>305</td>
<td>3.76</td>
<td>1.759</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 45

*Standard 2: Self-Assessments-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3.69</td>
</tr>
<tr>
<td>2.4.1</td>
<td>2.90</td>
</tr>
<tr>
<td>2.4.2</td>
<td>2.42</td>
</tr>
<tr>
<td>2.4.3</td>
<td>3.70</td>
</tr>
<tr>
<td>2.4.4</td>
<td>2.29</td>
</tr>
</tbody>
</table>
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the self-assessments and Standard 2. A significant difference was found in the school library media specialists’ level of implementation of Standard 2, which was significantly greater than the following self-assessments.

- Self-Assessment 2.4.1 ($Z = -7.87, p < .01$)
- Self-Assessment 2.4.2 ($Z = -10.37, p < .01$)
- Self-Assessment 2.4.4 ($Z = -9.97, p < .01$)

The level of implementation for the following self-assessment was ranked significantly greater than the level of implementation for Standard 2:

- Self-Assessment 2.4.3 ($Z = -0.86, p < .01$)

**Standard 3: Skills**

*Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.*

3.1 Skills:

3.1.1 Conclude an inquiry-based research process by sharing new understandings and reflecting on the learning.

3.1.2 Participate and collaborate as members of a social and intellectual network of learners.

3.1.3 Use writing and speaking skills to communicate new understanding effectively.
3.1.4 Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess.

3.1.5 Connect learning to community issues.

3.1.6 Use information and technology ethically and responsibly. (AASL, 2007, p. 5)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each skill in the strand for Standard 3. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the skill strand for Standard 3. Following are the results:

Standard 3 \( (Z = -14.13, p < .01) \)

Skill 3.1.1 \( (Z = -13.97, p < .01) \)

Skill 3.1.2 \( (Z = -13.95, p < .01) \)

Skill 3.1.3 \( (Z = -13.47, p < .01) \)

Skill 3.1.4 \( (Z = -12.94, p < .01) \)

Skill 3.1.5 \( (Z = -13.54, p < .01) \)

Skill 3.1.6 \( (Z = -12.33, p < .01) \)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the skills strand in Standard 3 as listed in the Standards for the 21st-Century Learner. The test was significant, \( \chi^2 (6, N = 305) = 221.65, p < .01 \), and the Kendall coefficient of concordance of .121 indicated fairly strong differences among the level of endorsement of skills in Standard 3. Table 46 shows the descriptive statistics for the levels of
endorsement for the skills strand from Standard 3. Table 47 presents the average mean rank of each variable from the Friedman test.

Table 46

**Standard 3: Skills-Endorsement Descriptive Statistics**

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>6.76</td>
<td>.686</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3.1.1</td>
<td>305</td>
<td>6.77</td>
<td>.550</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>3.1.2</td>
<td>305</td>
<td>6.44</td>
<td>.965</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.3</td>
<td>305</td>
<td>6.83</td>
<td>.461</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>3.1.4</td>
<td>305</td>
<td>6.72</td>
<td>.802</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.5</td>
<td>305</td>
<td>6.47</td>
<td>1.064</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.6</td>
<td>305</td>
<td>6.97</td>
<td>.291</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 47

**Standard 3: Skills-Endorsement: Friedman Mean Ranks**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
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</tr>
<tr>
<td>3.1.1</td>
<td>4.05</td>
</tr>
<tr>
<td>3.1.2</td>
<td>3.32</td>
</tr>
<tr>
<td>3.1.3</td>
<td>4.27</td>
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<tr>
<td>3.1.4</td>
<td>4.02</td>
</tr>
<tr>
<td>3.1.5</td>
<td>3.60</td>
</tr>
<tr>
<td>3.1.6</td>
<td>4.59</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the skills and Standard 3. A significant difference was found in the school library media specialists’ level of endorsement of Standard 3, which was greater than some of the skills. The level of endorsement
for the following skills was ranked significantly less than the level of endorsement for Standard 3:

- Skill 3.1.2 \((Z = -4.97, p < .01)\)
- Skill 3.1.5 \((Z = -4.09, p < .01)\)

The level of endorsement for the following skill was ranked significantly greater than the level of endorsement for Standard 3.

- Skill 3.1.6 \((Z = -5.02, p < .01)\)

The Wilcoxon test examined the results of the level of endorsement between Standard 3 and each of the skills. No significant difference was found in the following:

- Skill 3.1.1 \((Z = -0.08, p > .01)\)
- Skill 3.1.3 \((Z = -1.23, p > .01)\)
- Skill 3.1.4 \((Z = -0.20, p > .01)\)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the skills strand in Standard 3 as listed in the *Standards for the 21st-Century Learner*. The test was significant, \(\chi^2 (6, N = 305) = 379.53, p < .01\), and the Kendall coefficient of concordance of .207 indicated fairly strong differences among the level of implementation of skills in Standard 3. Table 48 shows the descriptive statistics for the levels of implementation for the skills strand from Standard 3. Table 49 presents the average mean rank of each variable from the Friedman test.
Table 48

**Standard 3: Skills-Implementation Descriptive Statistics**

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>4.78</td>
<td>1.283</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.1</td>
<td>305</td>
<td>4.31</td>
<td>1.722</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.2</td>
<td>305</td>
<td>4.29</td>
<td>1.852</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.3</td>
<td>305</td>
<td>4.85</td>
<td>1.931</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.4</td>
<td>305</td>
<td>4.76</td>
<td>1.976</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.1.5</td>
<td>305</td>
<td>4.29</td>
<td>1.792</td>
<td>1</td>
<td>7</td>
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<td>3.1.6</td>
<td>305</td>
<td>5.63</td>
<td>1.397</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 49

**Standard 3: Skills-Implementation: Friedman Mean Ranks**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3.98</td>
</tr>
<tr>
<td>3.1.1</td>
<td>3.24</td>
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<tr>
<td>3.1.4</td>
<td>4.23</td>
</tr>
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<td>3.1.5</td>
<td>3.14</td>
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<tr>
<td>3.1.6</td>
<td>5.54</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the skills and Standard 3. A significant difference was found in the school library media specialists’ level of implementation of Standard 3, which was greater than most of the skills. The level of implementation for the following skills was ranked significantly less than the level of implementation for Standard 3:

- Skill 3.1.1 ($Z = -3.63, p < .01$)
- Skill 3.1.2 ($Z = -3.45, p < .01$)
Skill 3.1.5 \((Z = -3.54, p < .01)\)

The level of implementation for the following skills was ranked significantly greater than the level of implementation for Standard 3.

Skill 3.1.6 \((Z = -3.24, p < .01)\)

The Wilcoxon test examined the results of the level of implementation between Standard 3 and each of the skills. No significant difference was found in the following:

Skill 3.1.3 \((Z = -0.45, p > .01)\)

Skill 3.1.4 \((Z = -0.13, p > .01)\)

*Standard 3: Dispositions in Action*

*Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.*

3.2 Dispositions in Action:

3.2.1 Demonstrate leadership and confidence by presenting ideas to others in both formal and informal situations.

3.2.2 Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.

3.2.3 Demonstrate teamwork by working productively with others. (AASL, 2007, p. 5)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Disposition in Action in the strand for Standard 3. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of
implementation for all of the items in the Disposition in Action strand for Standard 3. Following are the results:

Standard 3 \((Z = -14.13, p < .01)\)

Disposition in Action 3.2.1 \((Z = -12.66, p < .01)\)

Disposition in Action 3.2.2 \((Z = -12.83, p < .01)\)

Disposition in Action 3.2.3 \((Z = -11.03, p < .01)\)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the dispositions in action strand in Standard 1 as listed in the Standards for the 21st-Century Learner. The test was significant, \(\chi^2 (3, N = 305) = 30.90, p < .01\), and the Kendall coefficient of concordance of .034 indicated fairly strong differences among the level of endorsement of dispositions in action in Standard 3. Table 50 shows the descriptive statistics for the levels of endorsement for the dispositions in action strand from Standard 3.

Table 51 presents the average mean rank of each variable from the Friedman test.

Table 50

*Standard 3: Dispositions in Action-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>(N)</th>
<th>(M)</th>
<th>(SD)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>6.76</td>
<td>.686</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3.2.1</td>
<td>305</td>
<td>6.52</td>
<td>.970</td>
<td>3</td>
<td>7</td>
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<tr>
<td>3.2.2</td>
<td>305</td>
<td>6.50</td>
<td>1.052</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.2.3</td>
<td>305</td>
<td>6.46</td>
<td>1.097</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 51

*Standard 3: Dispositions in Action-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
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<tr>
<td>3.2.1</td>
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<tr>
<td>3.2.2</td>
<td>2.43</td>
</tr>
<tr>
<td>3.2.3</td>
<td>2.40</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the dispositions in action and Standard 3. A significant difference was found in the school library media specialists’ level of endorsement of Standard 3, which was greater than all of the dispositions in action. The level of endorsement for the following dispositions in action was ranked significantly less than the level of endorsement for Standard 3:

- Disposition in Action 3.2.1 ($Z = -3.46, p < .01$)
- Disposition in Action 3.2.2 ($Z = -3.48, p < .01$)
- Disposition in Action 3.2.3 ($Z = -3.86, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the dispositions in action strand in Standard 3 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (3, N = 305) = 33.80, p < .01$, and the Kendall coefficient of concordance of .037 indicated fairly strong differences among the level of implementation of dispositions in action in Standard 3. Table 52 shows the descriptive statistics for the levels of implementation for the dispositions in action strand from Standard 3. Table 53 presents the average mean rank of each variable from the Friedman test.
Table 52

*Standard 3: Dispositions in Action-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>4.78</td>
<td>1.283</td>
<td>1</td>
<td>7</td>
</tr>
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<td>3.2.1</td>
<td>305</td>
<td>4.95</td>
<td>1.599</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.2.2</td>
<td>305</td>
<td>5.07</td>
<td>1.446</td>
<td>1</td>
<td>7</td>
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<td>3.2.3</td>
<td>305</td>
<td>5.23</td>
<td>1.716</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 53

*Standard 3: Dispositions in Action-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
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<tr>
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<td>2.42</td>
</tr>
<tr>
<td>3.2.2</td>
<td>2.58</td>
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<tr>
<td>3.2.3</td>
<td>2.74</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the dispositions in action and Standard 3. A significant difference was found in the school library media specialists’ level of implementation of Standard 3, which was greater than all of the dispositions in action. The level of implementation for the following dispositions in action was ranked significantly less than the level of implementation for Standard 3:

Disposition in Action 3.2.2 ($Z = -2.81, p < .01$)

Disposition in Action 3.2.3 ($Z = -3.87, p < .01$)

The Wilcoxon test examined the results of the level of implementation between Standard 3e and each of the Disposition in Actions. No significant difference was found in the following:

Disposition in Action 3.2.1 ($Z = -1.93, p > .01$)
Standard 3: Responsibilities

Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.

3.3 Responsibilities:

3.3.1 Solicit and respect diverse perspectives while searching for information, collaborating with others, and participating as a member of the community.

3.3.2 Respect the differing interests and experiences of others, and seek a variety of viewpoints.

3.3.3 Use knowledge and information skills and dispositions to engage in public conversation and debate around issues of common concern.

3.3.4 Create products that apply to authentic, real-world contexts.

3.3.5 Contribute to the exchange of ideas within and beyond the learning community.

3.3.6 Use information and knowledge in the service of democratic values.

3.3.7 Respect the principles of intellectual freedom. (AASL, 2007, p. 5)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Responsibility in the strand for Standard 3. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the Responsibility strand for Standard 3. Following are the results:

Standard Three \( (Z = -14.13, p < .01) \)

Responsibility 3.3.1 \( (Z = -12.57, p < .01) \)
Responsibility 3.3.2 \((Z = -12.47, p < .01)\)

Responsibility 3.3.3 \((Z = -12.63, p < .01)\)

Responsibility 3.3.4 \((Z = -13.18, p < .01)\)

Responsibility 3.3.5 \((Z = -12.51, p < .01)\)

Responsibility 3.3.6 \((Z = -13.44, p < .01)\)

Responsibility 3.3.7 \((Z = -10.71, p < .01)\)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the responsibilities strand in Standard 3 as listed in the

*Standards for the 21st-Century Learner.* The test was significant, \(\chi^2 (7, N = 305) = 127.88, p < .01\), and the Kendall coefficient of concordance of .060 indicated fairly strong differences among the level of endorsement of responsibilities in Standard 3. Table 54 shows the descriptive statistics for the levels of endorsement for the responsibilities strand from Standard 3. Table 55 presents the average mean rank of each variable from the Friedman test.

### Table 54

*Standard 3: Responsibilities-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>(N)</th>
<th>(M)</th>
<th>(SD)</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>6.76</td>
<td>.686</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3.3.1</td>
<td>305</td>
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<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.2</td>
<td>305</td>
<td>6.74</td>
<td>.575</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>3.3.3</td>
<td>305</td>
<td>6.43</td>
<td>1.071</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.4</td>
<td>305</td>
<td>6.52</td>
<td>.870</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>3.3.5</td>
<td>305</td>
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<td>.918</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.6</td>
<td>305</td>
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<td>1.011</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.7</td>
<td>305</td>
<td>6.83</td>
<td>.490</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 55

*Standard 3: Responsibilities-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>3.3.1</td>
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<tr>
<td>3.3.2</td>
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<tr>
<td>3.3.3</td>
<td>4.20</td>
</tr>
<tr>
<td>3.3.4</td>
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<td>3.3.5</td>
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<td>3.3.6</td>
<td>4.45</td>
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<td>3.3.7</td>
<td>5.05</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the responsibilities and Standard 3. A significant difference was found in the school library media specialists’ level of endorsement of Standard 3, which was greater than some of the responsibilities. The level of endorsement for the following responsibilities was ranked significantly less than the level of endorsement for Standard 3:

- Responsibility 3.3.1 ($Z = -2.78$, $p < .01$)
- Responsibility 3.3.3 ($Z = -4.44$, $p < .01$)
- Responsibility 3.3.4 ($Z = -3.88$, $p < .01$)
- Responsibility 3.3.5 ($Z = -4.45$, $p < .01$)
- Responsibility 3.3.6 ($Z = -2.60$, $p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 3 and each of the responsibilities. No significant difference was found in the following:

- Responsibility 3.3.2 ($Z = -0.64$, $p > .01$)
- Responsibility 3.3.7 ($Z = -1.29$, $p > .01$)
A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the responsibilities strand in Standard 1 as listed in the *Standards for the 21st-Century Learner*. The test was significant, \( \chi^2 (7, N = 305) = 243.82, p < .01 \), and the Kendall coefficient of concordance of .114 indicated fairly strong differences among the level of implementation of responsibilities in Standard 1. Table 56 shows the descriptive statistics for the levels of implementation for the responsibilities strand from Standard 3. Table 57 presents the average mean rank of each variable from the Friedman test.

### Table 56

*Standard 3: Responsibilities-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>4.78</td>
<td>1.283</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.1</td>
<td>305</td>
<td>4.92</td>
<td>1.695</td>
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<td>7</td>
</tr>
<tr>
<td>3.3.2</td>
<td>305</td>
<td>5.24</td>
<td>1.511</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>3.3.3</td>
<td>305</td>
<td>4.65</td>
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<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.4</td>
<td>305</td>
<td>4.61</td>
<td>1.688</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.5</td>
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<td>7</td>
</tr>
<tr>
<td>3.3.6</td>
<td>305</td>
<td>4.82</td>
<td>1.679</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>3.3.7</td>
<td>305</td>
<td>5.69</td>
<td>1.490</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

### Table 57

*Standard 3: Responsibilities-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4.14</td>
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<tr>
<td>3.3.1</td>
<td>4.57</td>
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<td>3.3.5</td>
<td>4.22</td>
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<td>3.3.7</td>
<td>5.99</td>
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</table>
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the responsibilities and Standard 3. A significant difference was found in the school library media specialists’ level of implementation of Standard 3, which was significantly greater than the following responsibilities.

Responsibility 3.3.2 ($Z = -3.91, p < .01$)
Responsibility 3.3.7 ($Z = -7.63, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 3 and each of the responsibilities. No significant difference was found in the following:

Responsibility 3.3.1 ($Z = -1.27, p > .01$)
Responsibility 3.3.3 ($Z = -0.98, p > .01$)
Responsibility 3.3.4 ($Z = -1.30, p > .01$)
Responsibility 3.3.5 ($Z = -1.31, p > .01$)
Responsibility 3.3.7 ($Z = -0.63, p > .01$)

*Standard 3: Self-Assessment Strategies*

*Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.*

3.4 Self-Assessment Strategies:

3.4.1 Assess the processes by which learning was achieved in order to revise strategies and learn more effectively in the future.

3.4.2 Assess the quality and effectiveness of the learning product.
3.4.3 Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints. (AASL, 2007, p. 5)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Self-Assessment in the self-assessment strand for Standard 3. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the self-assessment strand for Standard 3. Following are the results:

- Standard 3 ($Z = -14.13, p < .01$)
- Self-Assessment 3.4.1 ($Z = -13.07, p < .01$)
- Self-Assessment 3.4.2 ($Z = -13.32, p < .01$)
- Self-Assessment 3.4.3 ($Z = -12.16, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the self-assessments strand in Standard 3 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (3, N = 305) = 25.08, p < .01$, and the Kendall coefficient of concordance of .027 indicated fairly strong differences among the level of endorsement of self-assessments in Standard 3. Table 58 shows the descriptive statistics for the levels of endorsement for the self-assessments strand from Standard 3. Table 59 presents the average mean rank of each variable from the Friedman test.
Table 58

*Standard 3: Self-Assessments-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>6.76</td>
<td>.686</td>
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<td>7</td>
</tr>
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<td>3.4.2</td>
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<td>.806</td>
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</tr>
</tbody>
</table>

Table 59

*Standard 3: Self-Assessments-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
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<td>2.42</td>
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<td>3.4.2</td>
<td>2.45</td>
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<tr>
<td>3.4.3</td>
<td>2.46</td>
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</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the self-assessments and Standard 3. A significant difference was found in the school library media specialists’ level of endorsement of Standard 3, which was greater than all of the self-assessments. The level of endorsement for the following self-assessments was ranked significantly less than the level of endorsement for Standard 3:

- Self-Assessment 3.4.1 ($Z = -3.58, p < .01$)
- Self-Assessment 3.4.2 ($Z = -3.68, p < .01$)
- Self-Assessment 3.4.3 ($Z = -3.55, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the self-assessments strand in Standard 3 as listed in the
Standards for the 21st-Century Learner. The test was significant, $\chi^2 (3, N = 305) = 25.07, p < .01$, and the Kendall coefficient of concordance of .027 indicated fairly strong differences among the level of implementation of self-assessments in Standard 3. Table 60 shows the descriptive statistics for the levels of implementation for the self-assessments strand from Standard 3. Table 61 presents the average mean rank of each variable from the Friedman test.

Table 60

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>305</td>
<td>4.78</td>
<td>1.283</td>
<td>1</td>
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<td>3.4.1</td>
<td>305</td>
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<td>1.578</td>
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</tr>
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<td>7</td>
</tr>
<tr>
<td>3.4.3</td>
<td>305</td>
<td>5.07</td>
<td>1.746</td>
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<td>7</td>
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</tbody>
</table>

Table 61

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2.31</td>
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<tr>
<td>3.4.1</td>
<td>2.39</td>
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<tr>
<td>3.4.2</td>
<td>2.61</td>
</tr>
<tr>
<td>3.4.3</td>
<td>2.69</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the self-assessments and Standard 3. No significant difference was found in between the implementation of Standard 3 and any of the levels of implementation of the following self-assessments:
Self-Assessment 3.4.1 \((Z = -0.39, p > .01)\)

Self-Assessment 3.4.2 \((Z = -2.05, p > .01)\)

Self-Assessment 3.4.3 \((Z = -2.53, p > .01)\)

*Standard 4: Skills*

*Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.*

4.1 Skills:

4.1.1 Read, view, and listen for pleasure and personal growth.

4.1.2 Read widely and fluently to make connections with self, the world, and previous reading.

4.1.3 Respond to literature and creative expressions of ideas in various formats and genres.

4.1.4 Seek information for personal learning in a variety of formats and genres.

4.1.5 Connect ideas to own interests and previous knowledge and experience.

4.1.6 Organize personal knowledge in a way that can be called upon easily.

4.1.7 Use social networks and information tools to gather and share information.

4.1.8 Use creative and artistic formats to express personal learning. (AASL, 2007, p. 6)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each skill in the strand for Standard 4. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the skill strand for Standard 4. Following are the results:
Standard Four ($Z = -13.04, p < .01$)

Skill 4.1.1 ($Z = -9.60, p < .01$)

Skill 4.1.2 ($Z = -12.29, p < .01$)

Skill 4.1.3 ($Z = -12.01, p < .01$)

Skill 4.1.4 ($Z = -10.98, p < .01$)

Skill 4.1.5 ($Z = -12.14, p < .01$)

Skill 4.1.6 ($Z = -12.84, p < .01$)

Skill 4.1.7 ($Z = -11.81, p < .01$)

Skill 4.1.8 ($Z = -12.26, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the skills strand in Standard 4 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (8, N = 305) = 182.40, p < .01$, and the Kendall coefficient of concordance of .075 indicated fairly strong differences among the level of endorsement of skills in Standard 4. Table 62 shows the descriptive statistics for the levels of endorsement for the skills strand from Standard 4. Table 63 presents the average mean rank of each variable from the Friedman test.

Table 62

*Standard 4: Skills-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>6.71</td>
<td>.704</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.1.1</td>
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<td>6.94</td>
<td>.309</td>
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</tr>
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<td>6.82</td>
<td>.689</td>
<td>2</td>
<td>7</td>
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<td>4.1.4</td>
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Table 63

*Standard 4: Skills-Endorsement: Friedman Mean Ranks*

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<tr>
<th>Standard</th>
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</tr>
</thead>
<tbody>
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<td>5.66</td>
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<td>4.1.2</td>
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<td>5.06</td>
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<td>4.1.4</td>
<td>4.90</td>
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<tr>
<td>4.1.5</td>
<td>5.03</td>
</tr>
<tr>
<td>4.1.6</td>
<td>4.97</td>
</tr>
<tr>
<td>4.1.7</td>
<td>4.26</td>
</tr>
<tr>
<td>4.1.8</td>
<td>4.63</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the skills and Standard 4. A significant difference was found in the school library media specialists’ level of endorsement of Standard 4, which was greater than two of the skills. The level of endorsement for the following skills was ranked significantly less than the level of endorsement for Standard 4:

- Skill 4.1.1 ($Z = -4.99, p < .01$)
- Skill 4.1.2 ($Z = -3.19, p < .01$)

The level of endorsement for the following skills was ranked significantly greater than the level of endorsement for Standard 4:

- Skill 4.1.7 ($Z = -5.00, p < .01$)
- Skill 4.1.8 ($Z = -2.97, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 4 and each of the skills. No significant difference was found in the following:
Skill 4.1.3 (Z = -0.31, p > .01)
Skill 4.1.4 (Z = -0.87, p > .01)
Skill 4.1.5 (Z = -1.21, p > .01)
Skill 4.1.6 (Z = -0.59, p > .01)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the skills strand in Standard 4 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (8, N = 305) = 360.53, p < .01$, and the Kendall coefficient of concordance of .148 indicated fairly strong differences among the level of implementation of skills in Standard 4. Table 64 shows the descriptive statistics for the levels of implementation for the skills strand from Standard 4. Table 65 presents the average mean rank of each variable from the Friedman test.

Table 64

*Standard 4: Skills-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>5.26</td>
<td>1.196</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.1.1</td>
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<td>5.79</td>
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<td>7</td>
</tr>
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<td>4.1.3</td>
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<td>5.59</td>
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<tr>
<td>4.1.4</td>
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<td>7</td>
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<tr>
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<td>7</td>
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<tr>
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<td>305</td>
<td>4.69</td>
<td>2.016</td>
<td>1</td>
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<td>4.1.8</td>
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</tbody>
</table>
Table 65

Standard 4: Skills-Implementation: Friedman Mean Ranks

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
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</thead>
<tbody>
<tr>
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<td>4.50</td>
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<td>4.1.1</td>
<td>6.56</td>
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<td>5.03</td>
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<td>4.1.6</td>
<td>4.29</td>
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<td>4.1.7</td>
<td>3.95</td>
</tr>
<tr>
<td>4.1.8</td>
<td>4.06</td>
</tr>
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</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the skills and Standard 4. A significant difference was found in the school library media specialists’ level of implementation of Standard 4, which was greater than most of the skills. The level of implementation for the following skills was ranked significantly less than the level of implementation for Standard 4:

Skill 4.1.1 ($Z = -7.77, p < .01$)
Skill 4.1.2 ($Z = -5.31, p < .01$)
Skill 4.1.3 ($Z = -3.30, p < .01$)
Skill 4.1.4 ($Z = -3.32, p < .01$)

The level of implementation for the following skill was ranked significantly greater than the level of implementation for Standard 4:

Skill 4.1.7 ($Z = -3.59, p < .01$)
The Wilcoxon test examined the results of the level of implementation between Standard 4 and each of the skills. No significant difference was found in the following:

Skill 4.1.5 ($Z = -1.53, p > .01$)
Skill 4.1.6 ($Z = -1.15, p > .01$)
Skill 4.1.8 ($Z = -1.11, p > .01$)

*Standard 4: Dispositions in Action*

*Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.*

4.2 Dispositions in Action:

4.2.1 Display curiosity by pursuing interests through multiple resources.
4.2.2 Demonstrate motivation by seeking information to answer personal questions and interests, trying a variety of formats and genres, and displaying a willingness to go beyond academic requirements.
4.2.3 Maintain openness to new ideas by considering divergent opinions, changing opinions or conclusions when evidence supports the change, and seeking information about new ideas encountered through academic or personal experiences.
4.2.4 Show an appreciation for literature by electing to read for pleasure and expressing and interest in various literary genres. (AASL, 2007, p. 6)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Disposition in Action in the strand for Standard 4. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library.
media program. The level of endorsement was significantly higher than the level of implementation for all of the items in the Disposition in Action strand for Standard 4. Following are the results:

Standard 4 \((Z = -13.04, p < .01)\)

Disposition in Action 4.2.1 \((Z = -11.56, p < .01)\)

Disposition in Action 4.2.2 \((Z = -13.11, p < .01)\)

Disposition in Action 4.2.3 \((Z = -13.06, p < .01)\)

Disposition in Action 4.2.4 \((Z = -11.43, p < .01)\)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the dispositions in action strand in Standard 4 as listed in the Standards for the 21st-Century Learner. The test was significant, \(\chi^2 (4, N = 305) = 96.56, p < .01\), and the Kendall coefficient of concordance of .079 indicated fairly strong differences among the level of endorsement of dispositions in action in Standard 4r. Table 66 shows the descriptive statistics for the levels of endorsement for the dispositions in action strand from Standard 4.

Table 67 presents the average mean rank of each variable from the Friedman test.

Table 66

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>6.71</td>
<td>.704</td>
<td>1</td>
<td>7</td>
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<tr>
<td>4.2.1</td>
<td>305</td>
<td>6.48</td>
<td>.956</td>
<td>4</td>
<td>7</td>
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<tr>
<td>4.2.2</td>
<td>305</td>
<td>6.64</td>
<td>.828</td>
<td>4</td>
<td>7</td>
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<tr>
<td>4.2.3</td>
<td>305</td>
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<td>7</td>
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<td>4.2.4</td>
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<td>5</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 67

*Standard 4: Dispositions in Action-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
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</tr>
</thead>
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<tr>
<td>4.2.3</td>
<td>2.89</td>
</tr>
<tr>
<td>4.2.4</td>
<td>3.39</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the dispositions in action and Standard 4. A significant difference was found in the school library media specialists’ level of endorsement of Standard 4, which was greater than one of the disposition in actions. The level of endorsement for the following disposition in action was ranked significantly less than the level of endorsement for Standard 4:

Disposition in Action 4.2.1 ($Z = -3.60, p < .01$)

The level of endorsement for the following dispositions in action was ranked significantly greater than the level of endorsement for Standard Four:

Disposition in Action 4.2.4 ($Z = -3.64, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 4 and each of the dispositions in action. No significant difference was found in the following:

Disposition in Action 4.2.2 ($Z = -1.19, p > .01$)

Disposition in Action 4.2.3 ($Z = -2.34, p > .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the dispositions in action strand in Standard 1 as listed in the
Standards for the 21st-Century Learner. The test was significant, \( \chi^2 (4, N = 305) = 172.89, p < .01 \), and the Kendall coefficient of concordance of .142 indicated fairly strong differences among the level of implementation of dispositions in action in Standard 1. Table 68 shows the descriptive statistics for the levels of implementation for the dispositions in action strand from Standard 4. Table 69 presents the average mean rank of each variable from the Friedman test.

Table 68

**Standard 4: Dispositions in Action-Implementation Descriptive Statistics**

<table>
<thead>
<tr>
<th>Standard</th>
<th>( N )</th>
<th>( M )</th>
<th>( SD )</th>
<th>Minimum</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>5.28</td>
<td>1.196</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.2.1</td>
<td>305</td>
<td>5.32</td>
<td>1.523</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.2.2</td>
<td>305</td>
<td>5.11</td>
<td>1.650</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.2.3</td>
<td>305</td>
<td>4.94</td>
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<td>1.205</td>
<td>3</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 69

**Standard 4: Dispositions in Action-Implementation: Friedman Mean Ranks**

<table>
<thead>
<tr>
<th>Standard</th>
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</tr>
</thead>
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<td>4.2.4</td>
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Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the dispositions in action and Standard 4. A significant difference was found in the school library media specialists’ level of implementation of Standard 4, which was greater than one of the
dispositions in action. The level of implementation for the following disposition in action was ranked significantly less than the level of implementation for Standard 4:

Disposition in Action 4.2.4 ($Z = -5.55, p < .01$)

The Wilcoxon test examined the results of the level of implementation between Standard 4 and each of the dispositions in action. No significant difference was found in the following:

Disposition in Action 4.2.1 ($Z = -1.01, p > .01$)

Disposition in Action 4.2.2 ($Z = -1.09, p > .01$)

Disposition in Action 4.2.3 ($Z = -2.55, p > .01$)

**Standard 4: Responsibilities**

**Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.**

4.3 Responsibilities:

4.3.1 Participate in the social exchange of ideas, both electronically and in person.

4.3.2 Recognize that resources are created for a variety of purposes.

4.3.3 Seek opportunities for pursuing personal and aesthetic growth.

4.3.4 Practice safe and ethical behaviors in personal electronic communication and interaction. (AASL, 2007, p. 6)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Responsibility in the strand for Standard 4. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level of
implementation for all of the items in the Responsibility strand for Standard 4. Following are the results:

Standard 4 ($Z = -13.04, p < .01$)

Responsibility 4.3.1 ($Z = -11.85, p < .01$)

Responsibility 4.3.2 ($Z = -12.57, p < .01$)

Responsibility 4.3.3 ($Z = -11.93, p < .01$)

Responsibility 4.3.4 ($Z = -11.15, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the responsibilities strand in Standard 4 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (4, N = 305) = 120.94, p < .01$, and the Kendall coefficient of concordance of .099 indicated fairly strong differences among the level of endorsement of responsibilities in Standard four. Table 70 shows the descriptive statistics for the levels of endorsement for the responsibilities strand from Standard 4. Table 71 presents the average mean rank of each variable from the Friedman test.

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
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<td>6.71</td>
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<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.3.1</td>
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<td>6.19</td>
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<td>1</td>
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<td>4.3.3</td>
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<td>.751</td>
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<td>4.3.4</td>
<td>305</td>
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<td>7</td>
</tr>
</tbody>
</table>
Table 71

*Standard 4: Responsibilities-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
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</tr>
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</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the responsibilities and Standard 4. A significant difference was found in the school library media specialists’ level of endorsement of Standard 4, which was greater than one of the responsibilities. The level of endorsement for the following responsibilities was ranked significantly less than the level of endorsement for Standard 4:

- Responsibility 4.3.1 ($Z = -5.97, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 4 and each of the responsibilities. No significant difference was found in the following:

- Responsibility 4.3.2 ($Z = -0.33, p > .01$)
- Responsibility 4.3.3 ($Z = -0.36, p > .01$)
- Responsibility 4.3.4 ($Z = -2.56, p > .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the responsibilities strand in Standard 4 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (4, N = 305) = 61.34, p < .01$, and the Kendall coefficient of concordance of .050 indicated fairly strong differences among
the level of implementation of responsibilities in Standard 4. Table 72 shows the descriptive statistics for the levels of implementation for the responsibilities strand from Standard 4. Table 73 presents the average mean rank of each variable from the Friedman test.

Table 72

**Standard 4: Responsibilities-Implementation Descriptive Statistics**

<table>
<thead>
<tr>
<th>Standard</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>5.26</td>
<td>1.196</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.3.1</td>
<td>305</td>
<td>4.93</td>
<td>1.853</td>
<td>1</td>
<td>7</td>
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<td>4.3.2</td>
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<td>5.30</td>
<td>1.636</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.3.3</td>
<td>305</td>
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<td>1.779</td>
<td>1</td>
<td>7</td>
</tr>
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<td>4.3.4</td>
<td>305</td>
<td>5.60</td>
<td>1.589</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 73

**Standard 4: Responsibilities-Implementation: Friedman Mean Ranks**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2.82</td>
</tr>
<tr>
<td>4.3.1</td>
<td>2.66</td>
</tr>
<tr>
<td>4.3.2</td>
<td>3.07</td>
</tr>
<tr>
<td>4.3.3</td>
<td>2.99</td>
</tr>
<tr>
<td>4.3.4</td>
<td>3.47</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the responsibilities and Standard 4. The level of implementation for the following responsibility was ranked significantly greater than the level of implementation for Standard 4:

Responsibility 4.3.4 ($Z = -3.08$, $p < .01$)
The Wilcoxon test examined the results of the level of endorsement between Standard 4 and each of the responsibilities. No significant difference was found in the following:

- Responsibility 4.3.1 \( (Z = -1.87, p > .01) \)
- Responsibility 4.3.2 \( (Z = -0.65, p > .01) \)
- Responsibility 4.3.3 \( (Z = -0.28, p > .01) \)

**Standard 4: Self-Assessment Strategies**

*Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.*

- 4.4 Self-Assessment Strategies:
  - 4.4.1 Identify own areas of interest
  - 4.4.2 Recognize the limits of own personal knowledge.
  - 4.4.3 Recognize how to focus efforts in personal learning.
  - 4.4.4 Interpret new information based on cultural and social context.
  - 4.4.5 Develop personal criteria for gauging how effectively own ideas are expressed.
  - 4.4.6 Evaluate own ability to select resources that are engaging and appropriate for personal interests and needs. (AASL, 2007, p. 6)

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each Self-Assessment in the self assessment strand for Standard 4. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program. The level of endorsement was significantly higher than the level
of implementation for all of the items in the self-assessment strand for Standard 4. Following are the results:

Standard 4 ($Z = -13.04, p < .01$)

Self-Assessment 4.4.1 ($Z = -6.95, p < .01$)

Self-Assessment 4.4.2 ($Z = -6.95, p < .01$)

Self-Assessment 4.4.3 ($Z = -10.54, p < .01$)

Self-Assessment 4.4.4 ($Z = -9.26, p < .01$)

Self-Assessment 4.4.5 ($Z = -10.55, p < .01$)

Self-Assessment 4.4.6 ($Z = -6.95, p < .01$)

A Friedman test was conducted to evaluate differences in the perceptions of the level of endorsement participants have of the self-assessments strand in Standard 4 as listed in the Standards for the 21st-Century Learner. The test was significant, $\chi^2 (6, N = 305) = 62.71, p < .01$, and the Kendall coefficient of concordance of .034 indicated fairly strong differences among the level of endorsement of self-assessments in Standard 4. Table 74 shows the descriptive statistics for the levels of endorsement for the self-assessments strand from Standard 4. Table 75 presents the average mean rank of each variable from the Friedman test.

Table 74

*Standard 4: Self-Assessments-Endorsement Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>6.71</td>
<td>.704</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.4.1</td>
<td>305</td>
<td>6.84</td>
<td>.539</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>4.4.2</td>
<td>305</td>
<td>6.87</td>
<td>.496</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>4.4.3</td>
<td>305</td>
<td>6.78</td>
<td>.576</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>4.4.4</td>
<td>305</td>
<td>6.70</td>
<td>.828</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>4.4.5</td>
<td>305</td>
<td>6.78</td>
<td>.576</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>4.4.6</td>
<td>305</td>
<td>6.93</td>
<td>.248</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>
Table 75

*Standard 4: Self-Assessments-Endorsement: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3.75</td>
</tr>
<tr>
<td>4.4.1</td>
<td>4.18</td>
</tr>
<tr>
<td>4.4.2</td>
<td>4.05</td>
</tr>
<tr>
<td>4.4.3</td>
<td>3.99</td>
</tr>
<tr>
<td>4.4.4</td>
<td>3.83</td>
</tr>
<tr>
<td>4.4.5</td>
<td>3.99</td>
</tr>
<tr>
<td>4.4.6</td>
<td>4.22</td>
</tr>
</tbody>
</table>

Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of endorsement between each of the self-assessments and Standard 4. A significant difference was found in the school library media specialists’ level of endorsement of Standard 4, which was greater than one of the self-assessments. The level of endorsement for the following self-assessments was ranked significantly less than the level of endorsement for Standard 4:

Self-Assessment 4.4.6 ($Z = -5.19, p < .01$)

The Wilcoxon test examined the results of the level of endorsement between Standard 4 and each of the self-assessments. No significant difference was found in the following:

Self-Assessment 4.4.1 ($Z = -1.63, p > .01$)
Self-Assessment 4.4.2 ($Z = -2.48, p > .01$)
Self-Assessment 4.4.3 ($Z = -0.71, p > .01$)
Self-Assessment 4.4.4 ($Z = -0.17, p > .01$)
Self-Assessment 4.4.5 ($Z = -0.71, p > .01$)
A Friedman test was conducted to evaluate differences in the perceptions of the level of implementation participants have of the self-assessments strand in Standard 4 as listed in the *Standards for the 21st-Century Learner*. The test was significant, $\chi^2 (6, N = 305) = 382.50, p < .01$, and the Kendall coefficient of concordance of .209 indicated fairly strong differences among the level of implementation of self-assessments in Standard 4. Table 76 shows the descriptive statistics for the levels of implementation for the self-assessments strand from Standard 4. Table 77 presents the average mean rank of each variable from the Friedman test.

**Table 76**

*Standard 4: Self-Assessments-Implementation Descriptive Statistics*

<table>
<thead>
<tr>
<th>Standard</th>
<th>$N$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>305</td>
<td>5.26</td>
<td>1.196</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4.4.1</td>
<td>305</td>
<td>6.25</td>
<td>1.315</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>4.4.2</td>
<td>305</td>
<td>6.28</td>
<td>1.310</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>4.4.3</td>
<td>305</td>
<td>5.92</td>
<td>1.261</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>4.4.4</td>
<td>305</td>
<td>5.85</td>
<td>1.612</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>4.4.5</td>
<td>305</td>
<td>5.72</td>
<td>1.575</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>4.4.6</td>
<td>305</td>
<td>6.25</td>
<td>1.535</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

**Table 77**

*Standard 4: Self-Assessments-Implementation: Friedman Mean Ranks*

<table>
<thead>
<tr>
<th>Standard</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>2.82</td>
</tr>
<tr>
<td>4.4.1</td>
<td>4.79</td>
</tr>
<tr>
<td>4.4.2</td>
<td>4.70</td>
</tr>
<tr>
<td>4.4.3</td>
<td>3.91</td>
</tr>
<tr>
<td>4.4.4</td>
<td>3.74</td>
</tr>
<tr>
<td>4.4.5</td>
<td>3.46</td>
</tr>
<tr>
<td>4.4.6</td>
<td>4.58</td>
</tr>
</tbody>
</table>
Follow-up pairwise comparisons were conducted using a Wilcoxon test and controlling for the Type 1 errors across these comparisons at the .01 level using the LSD procedure. The Wilcoxon test examined the results of the level of implementation between each of the self-assessments and Standard 4. A significant difference was found in the school library media specialists’ level of implementation of Standard 4, which was significantly greater than the level of implementation for all of the following self-assessments:

- Self-Assessment 4.4.1 ($Z = -8.19, p < .01$)
- Self-Assessment 4.4.2 ($Z = -8.48, p < .01$)
- Self-Assessment 4.4.3 ($Z = -6.20, p < .01$)
- Self-Assessment 4.4.4 ($Z = -4.94, p < .01$)
- Self-Assessment 4.4.5 ($Z = -4.14, p < .01$)
- Self-Assessment 4.4.6 ($Z = -7.87, p < .01$)

**Standard: Strands Section Summary**

The *Standards for the 21st-Century Learner* are organized with the nine beliefs prefacing the four new standards. The beliefs feature two core approaches--reading and inquiry--which are embedded in each of the standards. Each of the four standards are divided into four strands: skills, dispositions in action, responsibilities, and self-assessment. The participants were asked about their level of endorsement and level of implementation for each of these. Analyses were conducted to determine whether there was a significant relationship between the level of endorsement and the level of implementation similar to the results from the beliefs and standards. Each item in the strands was compared to its overlying standard to determine whether
there were significant differences when the responses to these strand items were compared with
the responses to each corresponding standard using the whole group responses ($N = 305$).

A Wilcoxon test examined the results of the school library media specialist’s level of
endorsement in relationship with the level of implementation for each area of the strand for the
four standards. As expected, a significant difference was found between the level of endorsement
and the level at which the standard is actually implemented in the school library media program
for every item examined. The level of endorsement was significantly higher than the level of
implementation for all of the items in the four strands for all four standards.

The level of endorsement of the majority of the nine skills attached to Standard 1 were
found to be significantly less than the level of endorsement for the overlying standard. The level
of endorsement was not significant for Skill 1.1.4. The level of implementation of the majority of
the skills attached to Standard 1 were found to be significantly less than the level of
implementation for the overlying standard. The level of implementation was not significant for
Skill 1.1.2, Skill 1.1.4, and Skill 1.1.9.

The level of endorsement for all of the seven dispositions in action attached to Standard
1 were found to be significantly less than the level of endorsement for the overlying standard.
The level of implementation for all of the dispositions in action attached to Standard 1 were
found to be significantly less than the level of implementation for the overlying standard.

The level of endorsement two of the five responsibilities attached to Standard 1 was
found to be significantly less than the level of endorsement for the overlying standard. The level
of endorsement was not significant for Responsibility 1.3.1, Responsibility 1.3.3, and
Responsibility 1.3.5. The level of implementation of the majority of the responsibilities attached
to Standard 1 were found to be significantly less than the level of implementation for the
overlying standard. The level of implementation for the Responsibility 1.3.2 was ranked significantly greater than the level of implementation for Standard 1. The level of implementation was not significant for Responsibility 1.3.4.

The level of endorsement of the majority of the four self-assessments attached to Standard 1 were found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Self-Assessment 1.4.4. The level of implementation of the majority of the self-assessments attached to Standard 1 were found to be significantly less than the level of implementation for the overlying standard. The level of implementation was significantly greater than the overlying standard for Self-Assessment 1.4.4.

The level of endorsement of two of the six skills attached to Standard 2 were found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Skill 2.1.3, Skill 2.1.4, Skill 2.1.5, and Skill 2.1.6. The level of implementation of three of the skills attached to Standard 2 were found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Skill 2.1.3, Skill 2.1.5, and Skill 2.1.6.

The level of endorsement for two of the four dispositions in action attached to Standard 2 were found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Dispositions in Action 2.2.1 and 2.2.4. The level of implementation for the majority of the dispositions in action attached to Standard 2 were found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Disposition in Action 2.2.4.

The level of endorsement one of the three responsibilities attached to Standard 2 was found to be significantly less than the level of endorsement for the overlying standard. The level
of endorsement was not significant for Responsibility 2.3.1 and Responsibility 2.3.3. The level of implementation of the majority of the responsibilities attached to Standard 2 were found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Responsibility 2.3.1.

The level of endorsement for one of the four self-assessments attached to Standard 2 were found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Self-Assessment 2.4.1, Self-Assessment 2.4.2, and Self-Assessment 2.4.3. The level of implementation of the majority of the self-assessments attached to Standard 2 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was significantly greater than the overlying standard for Self-Assessment 2.4.3.

The level of endorsement of two of the six skills attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was found to be significantly greater than the level of endorsement for the overlying standard for Skill 3.1.6. The level of endorsement was not significant for Skill 3.1.1, Skill 3.1.3, and Skill 3.1.4. The level of implementation of three of the skills attached to Standard 3 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was found to be significantly greater than the overlying standard for Skill 3.1.6. The level of implementation was not significant for Skill 3.1.3, and Skill 3.1.4.

The level of endorsement for all of the three dispositions in action attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of implementation for two of the dispositions in action attached to Standard 3 was found to
be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Disposition in Action 3.2.1.

The level of endorsement for the majority of the seven responsibilities attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Responsibility 3.3.2, and Responsibility 3.3.7. The level of implementation was not significant for the majority of the responsibilities attached to Standard 3. The level of implementation was found to be significantly less than the level of implementation for the overlying standard for Responsibility 3.3.2 and Responsibility 3.3.7.

The level of endorsement for all of the three self-assessments attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of implementation for all of the self-assessments attached to Standard 3 was found to be significantly less than the level of implementation for the overlying standard.

The level of endorsement of two of the eight skills attached to Standard 4 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was found to be significantly greater than the level of endorsement for the overlying standard for Skill 4.1.7 and Skill 4.1.8. The level of endorsement was not significant for Skill 4.1.3, Skill 4.1.4, Skill 4.1.5, and Skill 4.1.6. The level of implementation of four of the skills attached to Standard 4 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was found to be significantly greater than the overlying standard for Skill 4.17. The level of implementation was not significant for Skill 4.1.5, Skill 4.1.6, and Skill 4.1.8.
The level of endorsement for one of the four dispositions in action attached to Standard 4 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was found to be significantly greater than the overlying standard for Disposition in Action 4.2.4. The level of endorsement was not significant for Disposition in Action 4.2.2 and Disposition in Action 4.2.3. The level of implementation for the majority of the dispositions in action attached to Standard 4 was not found to be significant. The level of implementation was found to be significantly less than the level of implementation for the overlying standard for Disposition in Action 4.2.4.

The level of endorsement for the majority of the four responsibilities attached to Standard 4 was found to not be significant. The level of endorsement was found to be significantly less than the level of endorsement for the overlying standard for Responsibility 4.3.1. The level of implementation was not significant for the majority of the responsibilities attached to Standard 4. The level of implementation was found to be significantly less than the level of implementation for the overlying standard for Responsibility 4.3.4.

The level of endorsement for Self-Assessment 4.4.6 of the six self-assessments attached to Standard 4 were found to be significantly less than the level of endorsement for the overlying standard. No significant difference for the level of endorsement was found for the other self-assessments. The level of implementation for all of the self-assessments attached to Standard 4 were found to be significantly less than the level of implementation for the overlying standard.

Results from the Comment Sections

The survey provided a place for the respondents to comment after responding to their perceived level of endorsement and level of implementation for each item. Appendix D presents
The comments mention the lack of financial resources, lack of technology, and the lack of teacher cooperation or administrative support as barriers to the full implementation of the Standards for the 21st-Century Learner. The current emphasis on testing as an environmental factor that limits the implementation of the standards is mentioned many times. Several of the comments mention the inappropriateness of the developmental level for younger students. The Georgia Performance Standards (GPS) are mentioned several times as a barrier and also in a positive way as the process of alignment begins. Several of the school library media specialists see the Standards for the 21st-Century Learner as ideals that cannot be reached. Endorsement of the Standards for the 21st-Century Learner seems to be high for the school library media specialists who wrote comments, but implementation seems to be another matter with many barriers mentioned as to why the new standards cannot be fully implemented.
CHAPTER V

CONCLUSIONS

Introduction

Chapter V is divided into three sections. The first section contains a summary of the purpose of the study and a review of the results reported in chapter IV. These findings are discussed in the second section. Recommendations and implications for educators relevant to these findings are presented in the final section of this chapter.

Summary

The purpose of the research conducted in this study was to examine the perception of the level of endorsement that school library media specialists place on the AASL’s Standards for the 21st-Century Learner (ALA, 2007) and their perception of how much they implement the standards into their library media programs. The relationship of these perceptions was studied to determine whether the level of endorsement was the same as the level of implementation for each of the nine beliefs, four standards, and four strands for each standard. The relationship between the level of endorsement of the beliefs and the standards was studied to determine whether this level was the same for the beliefs and the standards. Also studied were the relationships between the level of implementation of the beliefs and standards to determine whether each was perceived as implemented at the same level. The demographic data collected about each participant included years of service as a school library media specialist, years of prior teaching experience, school level (elementary, middle, or high), and membership in school
library organizations (state or national). Each item in the four strands of the four standards was studied to see whether there was a relationship between the overlying standard and strands, which consist of skills, dispositions in action, responsibilities, and self-assessment. An online survey was used to gather the data from current school library media specialists in the state of Georgia. The data were analyzed using SPSS® for Windows (Release 13.0) using nonparametric statistical methods.

**Research Questions**

1. To what extent do library media specialists endorse the current national school library standards as appropriate to their perception of the profession?

2. To what degree do library media specialists perceive that the national standards are implemented in their respective schools?

3. How do the perceptions of the library media specialists’ level of endorsement of the standards compare with the perceptions as to their degree of implementation?

**Review of Results**

Descriptive statistics were used to rank the school library media specialists ratings of the beliefs according their level of endorsement:

1. Belief 9: School libraries are essential to the development of learning skills.

2. Belief 1: Reading is a window to the world.

3. Belief 3: Ethical behavior in the use of information must be taught.

4. Belief 4: Technology skills are crucial for future employment needs.
5. Belief 7: The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.

6. Belief 5: Equitable access is a key component for education.

7. Belief 6: The definition of information literacy has become more complex as resources and technologies have changed.


9. Belief 8: Learning has a social context.

Descriptive statistics were used to rank the beliefs from the *Standards for the 21st-Century Learner* using the respondents’ rating of their level of implementation of each belief in their school library media program:

1. Belief 1: Reading is a window to the world.

2. Belief 9: School libraries are essential to the development of learning skills.

3. Belief 5: Equitable access is a key component for education.

4. Belief 3: Ethical behavior in the use of information must be taught.

5. Belief 4: Technology skills are crucial for future employment needs.

6. Belief 6: The definition of information literacy has become more complex as resources and technologies have changed.

7. Belief 7: The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.


9. Belief 8: Learning has a social context.

The level of endorsement and the level of implementation as perceived by school library media specialists of the nine beliefs as found in *AASL’s Standards for the 21st-Century Learner*
(ALA, 2007) were analyzed using nonparametric statistical tests. A Friedman test found significant differences in the level of endorsement between the beliefs. The results from the Wilcoxon test presented which beliefs had significant differences in the level of endorsement among the sample \(N = 305\) of school library media specialists. The level of endorsement for Belief 1 and Belief 9 was found to be significantly greater than the majority of the other beliefs. The level of endorsement for Belief 2 and Belief 8 was found to be significantly less than the majority of the other beliefs. The same tests were used to analyze the level of implementation. The level of implementation for Belief 1 and Belief 9 was found to be significantly greater than the other beliefs. The level of implementation for Belief 7, Belief 2, and Belief 8 was found to be significantly less than the majority of the other beliefs. Finally, the Wilcoxon test was used to analyze the differences between the level of endorsement and the level of implementation of each belief. The level of endorsement was significantly greater than the level of implementation for all nine beliefs.

The Standards were ranked from the descriptive statistics in the following order using the respondents’ rating of their level of endorsement of each belief:

1. Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.
2. Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
3. Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.
4. Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.
The Standards were ranked from the descriptive statistics in the following order using the respondents’ rating of their level of implementation of each standard in their school library media program:

1. Standard 1: Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.
2. Standard 4: Learners use skills, resources, and tools to pursue personal and aesthetic growth.
3. Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
4. Standard 3: Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.

The level of endorsement and the level of implementation as perceived by school library media specialists of the four standards as found in *AASL’s Standards for the 21st-Century Learner* (ALA, 2007) were analyzed using nonparametric statistical tests. A Friedman test found significant differences in the level of endorsement between the standards. The results from the Wilcoxon test showed that Standard 1 was significantly greater than the other standards in the level of endorsement among the sample ($N = 305$) of school library media specialists. The same tests were used to analyze the level of implementation. Standard 3 was found to be significantly less than the other standards in the level of implementation among the sample of school library media specialists. The level of implementation for Standard 1 was found to be significantly greater than Standard 2. Finally, the Wilcoxon test was used to analyze the differences between the level of endorsement and the level of implementation of each standard. The level of endorsement was significantly greater than the level of implementation for all four standards.
The high school group ranked their level of endorsement of Belief 8 (Learning has a social context) significantly lower than the elementary and middle school groups. The elementary school group ranked their level of implementation of Belief 1 (Reading is a window to the world) significantly higher than the high school group. The middle school group ranked their level of implementation of Belief 8 significantly higher than the high school group.

The level of endorsement for Belief 3 (Ethical behavior in the use of information must be taught) was found to be significantly higher for the group from late career when compared to the group with less than 5 years experience in the school library media profession. The level of implementation for Belief 2 (Inquiry provides a framework for learning) was found to be significantly higher for the group from late career when compared to the group with less than 5 years experience in the school library media profession and the group in mid-career.

No significant difference was found between any of the other beliefs ($p > .01$), indicating that the groups did not differ significantly from each other in their level of endorsement or their level of implementation of the beliefs not mentioned. No significant difference was found ($p > .01$) between any of the standards, indicating that the groups did not differ significantly from each other in the level of endorsement or level of implementation of each standard in the analysis of any of the groups.

The Standards for the 21st-Century Learner are organized with the nine beliefs prefacing the four new standards. Each of the four standards are divided into four strands: skills, dispositions in action, responsibilities, and self-assessment. The participants were asked about their level of endorsement and level of implementation for each of these. Analyses were conducted to determine whether there was a significant relationship between the level of endorsement and the level of implementation similar to the results from the beliefs and
standards. Each item in the strands was compared to its overlying standard to determine whether there were significant differences when the responses to these strand items were compared with the responses to each corresponding standard using the whole group responses ($N = 305$).

A Wilcoxon test examined the results of the school library media specialist’s level of endorsement in relationship with the level of implementation for each area of the strand for the four standards. As expected, a significant difference was found between the level of endorsement and the level at which the standard is actually implemented in the school library media program for every item examined. The level of endorsement was significantly higher than the level of implementation for all of the items in the four strands for all four standards.

The level of endorsement of the majority of the nine skills attached to Standard 1 were found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Skill 1.1.4. The level of implementation of the majority of the skills attached to Standard 1 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Skill 1.1.2, Skill 1.1.4, and Skill 1.1.9.

The level of endorsement for all of the seven dispositions in action attached to Standard 1 were found to be significantly less than the level of endorsement for the overlying standard. The level of implementation for all of the dispositions in action attached to Standard 1 was found to be significantly less than the level of implementation for the overlying standard.

The level of endorsement two of the five responsibilities attached to Standard 1 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Responsibility 1.3.1, Responsibility 1.3.3, and Responsibility 1.3.5. The level of implementation of the majority of the responsibilities attached
to Standard 1 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation for the Responsibility 1.3.2 was ranked significantly greater than the level of implementation for Standard 1. The level of implementation was not significant for Responsibility 1.3.4.

The level of endorsement of the majority of the four self-assessments attached to Standard 1 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Self-Assessment 1.4.4. The level of implementation of the majority of the self-assessments attached to Standard 1 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was significantly greater than the overlying standard for Self-Assessment 1.4.4.

The level of endorsement of two of the six skills attached to Standard 2 were found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Skill 2.1.3, Skill 2.1.4, Skill 2.1.5, and Skill 2.1.6. The level of implementation of three of the skills attached to Standard 2 were found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Skill 2.1.3, Skill 2.1.5, and Skill 2.1.6.

The level of endorsement for two of the four dispositions in action attached to Standard 2 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Dispositions in Action 2.2.1 and 2.2.4. The level of implementation for the majority of the dispositions in action attached to Standard 2 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Disposition in Action 2.2.4.
The level of endorsement for one of the three responsibilities attached to Standard 2 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Responsibility 2.3.1, and Responsibility 2.3.3. The level of implementation of the majority of the responsibilities attached to Standard 2 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Responsibility 2.3.1.

The level of endorsement for one of the four self-assessments attached to Standard 2 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Self-Assessment 2.4.1, Self-Assessment 2.4.2, and Self-Assessment 2.4.3. The level of implementation of the majority of the self-assessments attached to Standard 2 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was significantly greater than the overlying standard for Self-Assessment 2.4.3.

The level of endorsement of two of the six skills attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was found to be significantly greater than the level of endorsement for the overlying standard for Skill 3.1.6. The level of endorsement was not significant for Skill 3.1.1, Skill 3.1.3, and Skill 3.1.4. The level of implementation of three of the skills attached to Standard 3 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was found to be significantly greater than the overlying standard for Skill 3.1.6. The level of implementation was not significant for Skill 3.1.3 and Skill 3.1.4.

The level of endorsement for all of the three dispositions in action attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The
The level of implementation for two of the dispositions in action attached to Standard 3 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was not significant for Disposition in Action 3.2.1.

The level of endorsement for the majority of the seven responsibilities attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was not significant for Responsibility 3.3.2 and Responsibility 3.3.7. The level of implementation was not significant for the majority of the responsibilities attached to Standard 3. The level of implementation was found to be significantly less than the level of implementation for the overlying standard for Responsibility 3.3.2 and Responsibility 3.3.7.

The level of endorsement for all of the three self-assessments attached to Standard 3 was found to be significantly less than the level of endorsement for the overlying standard. The level of implementation for all of the self-assessments attached to Standard 3 was found to be significantly less than the level of implementation for the overlying standard.

The level of endorsement of two of the eight skills attached to Standard 4 was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was found to be significantly greater than the level of endorsement for the overlying standard for Skill 4.1.7 and Skill 4.1.8. The level of endorsement was not significant for Skill 4.1.3, Skill 4.1.4, Skill 4.1.5, and Skill 4.1.6. The level of implementation of four of the skills attached to Standard 4 was found to be significantly less than the level of implementation for the overlying standard. The level of implementation was found to be significantly greater than the overlying standard for Skill 4.17. The level of implementation was not significant for Skill 4.1.5, Skill 4.1.6, and Skill 4.1.8.
The level of endorsement for one of the four dispositions in action attached to Standard Four was found to be significantly less than the level of endorsement for the overlying standard. The level of endorsement was found to be significantly greater than the overlying standard for Disposition in Action 4.2.4. The level of endorsement was not significant for Disposition in Action 4.2.2 and Disposition in Action 4.2.3. The level of implementation for the majority of the dispositions in action attached to Standard 4 was not found to be significant. The level of implementation was found to be significantly less than the level of implementation for the overlying standard for Disposition in Action 4.2.4.

The level of endorsement for the majority of the four responsibilities attached to Standard Four was found to not be significant. The level of endorsement was found to be significantly less than the level of endorsement for the overlying standard for Responsibility 4.3.1. The level of implementation was not significant for the majority of the responsibilities attached to Standard 4. The level of implementation was found to be significantly less than the level of implementation for the overlying standard for Responsibility 4.3.4.

The level of endorsement for Self-Assessment 4.4.6 of the six self-assessments attached to Standard 4 was found to be significantly less than the level of endorsement for the overlying standard. No significant difference for the level of endorsement was found for the other self-assessments. The level of implementation for all of the self-assessments attached to Standard 4 was found to be significantly less than the level of implementation for the overlying standard.

Conclusions and Discussion

From the first published school library standards in 1920 to the current version published in 2007, the standards have evolved from quantitative lists of materials every high school library
should have in its collection to standards that every learner should acquire from the school library media program. Each new set of standards has tried to adjust to a changing educational landscape by incorporating new roles for the library media specialists as new information technologies and innovations have emerged. Studies demonstrate consistently that school library media centers with quality collections, access to instructional technology and a professionally trained library media specialist involved in the educational process are contributing positively to the academic success of their students.

The 1945 standards started a revolution that resulted in the majority of public schools having a school library served by a professional library media specialist. The 1960, 1969, and 1975 standards integrated the school library with the audiovisual departments into a unified library media center. The first version of Information Power (AASL & AECT) was published in 1988, identifying the three roles of the school library media specialist as information specialist, teacher, and instructional consultant. The emphasis on the instructional role was becoming more and more pronounced. The expanded roles as identified in Information Power (AASL & AECT, 1998) of teacher, instructional partner, information specialist and program administrator have led to greater integration of the school library media program into the learning community. The new standards published in 2007 are aimed at the life-long-learner and are totally devoted to instruction. Completely gone are the quantitative lists and measures that were once the centerpiece of each new version of the standards. The standards are now a student-focused document that strives to complement the subject areas with an emphasis on reading, information literacy, inquiry and appropriate use of instructional technology.

The demographic data demonstrates how far the library media profession has come since its inception. The elementary school library media specialists outnumber the other two levels,
when once it was common only to have high school library media specialists. The first standards were developed and written by a committee chaired by a high school English teacher. English was once the most common teaching experience of a library media specialist prior to entering the profession. English as a prior subject taught was only 18.7% of the total sample, while no prior teaching (30.8%) and elementary subjects (22.0%) were represented more. The state professional organization membership was well represented with 69.2% of the sample belonging to at least one state organization. This was to be expected since the survey was publicized using the Georgia Media Listserv and Georgia Library Media Association Wiki. Only 22.3% of the respondents were members of a national organization. Cost of annual membership might be a contributing factor to this since national organizations average well over $100.00, while state organizations average around $30.00. Many of the respondents did not belong to a professional organization (27.2%). The school library media specialists considered to be new to the profession (0-5 years) represented 32.8% of the sample. Those considered mid-career (6-12 years) represented 32.1% and late-career (13 + years) represented 35.1%. These figures might be considered misleading since 69.2% had prior teaching experience. Several of the respondents have over 30 years of service and 71 participants (23.3%) will be eligible to retire in the next 5 years. Georgia currently requires 30 years of service to retire. While the two versions of Information Power (1988 & 1998) have been prominent during the majority of the respondents’ careers, there are many who entered the profession while the 1975 Standards were being used. The majority have over 15 years of service (56.3%). These library media specialists have witnessed the use of the 1988 Standards, then the development and implementation of the 1998 version of Information Power. Over 76% have been in the field of education since the publication of the 1998 version of Information Power. These school library media specialists
have seen the standards progress toward a document that is totally student-focused with the main emphasis placed on the instructional roles for the library media program.

Descriptive statistics were used to rank the beliefs that preface the standards. Nonparametric statistical tests were used to determine whether there were significant differences in these rankings. The level of endorsement for Belief 9 (School libraries are essential to the development of learning skills) was ranked significantly higher than the majority of the other beliefs. Belief 1 (Reading is a window to the world) was also ranked significantly higher than the majority of the other beliefs. These findings are to be expected, since these are both central to the library media program. Reading and inquiry are the two foundational elements specifically mentioned in the document as fundamental, but Belief 2 (Inquiry provides a framework for learning) was ranked significantly lower than the majority of the other beliefs. Belief 8 (Learning has a social context) was the lowest ranked belief. The wording of these beliefs has made a relatively new appearance to the education lexicon, which might explain why the level of endorsement was significantly lower than the other beliefs. Not surprisingly, the level of implementation for Belief 1 and Belief 9 was ranked significantly higher than the other beliefs, while Belief 2 and Belief 8 were once again ranked significantly lower. Belief 7 (The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own) was ranked significantly lower than the majority of the other beliefs. Reading instruction has mostly been the domain of the lower grades, which may explain why it was elevated in the level of implementation since the majority of the respondents were associated with elementary school. Belief 2, Belief 8, and Belief 7 could be considered mainly within the sphere of the upper grades. This was brought out in the comment section where many from the lower grades mentioned they felt the document was developmentally more appropriate for the
upper grades. As expected, the level of endorsement was significantly greater than the level of implementation for every belief.

Descriptive statistics were used to rank the standards. Nonparametric statistical tests were used to determine whether there were significant differences. The level of endorsement for Standard 1 (Learners use skills, resources, and tools to inquire, think critically, and gain knowledge) was found to be significantly greater than the rest of the standards. No significant difference was found between the other standards, and the level of endorsement was high for all of the standards (mean range 6.71 to 6.87 on a 1 to 7 scale). The level of implementation for Standard 3 (Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge) was found to be significantly lower than the other standards. No significant difference was found between the other standards and their level of implementation (mean range 4.78 to 5.40 on a 1 to 7 scale). The level of implementation was significantly less than the level of endorsement for every standard. The comment section for each standard mentioned several barriers to implementation including financial limitations, lack of teacher or administration cooperation, instructional technology deficits, and time constraints.

Nonparametric statistical tests were used to compare the level of endorsement and the level of implementation of the beliefs and standards between demographic groups. The participants responded to the demographics, school level, years of library media experience, years of prior teaching experience, and membership in professional organizations.

The school levels of elementary ($N = 153$), middle ($N = 64$), and high ($N = 88$) were selected as the natural division for comparison. The level of endorsement for Belief 8 (Learning has a social context) was found to be significantly lower for the high school group than for both
the middle school group and the elementary school group. This might be due to the
departmentalization of high schools and high school library media specialists. The level of implementation for Belief 1 (Reading is a window to the world) was found to be significantly lower for the high school group when compared to the elementary school group. Reading is considered an instructional domain of the lower grades and this result was expected. The level of implementation for Belief 8 was significantly lower for the high school group when compared to the middle school. No other significant differences were noted for the level of endorsement or the level of implementation of the beliefs.

The level of endorsement and the level of implementation of the four standards were compared using the school level demographics. No significant difference was found indicating that the groups did not significantly differ when the level of endorsement and the level of implementation were analyzed separately.

The groups compared for the membership in professional organizations was no membership \( (N = 83) \), state organization member \( (N = 154) \), national organization member \( (N = 11) \), and both state and national organizations membership \( (N = 57) \). No significant difference was found between the groups’ level of endorsement and no significant difference was found between the level of implementation when each was analyzed. This may be due to the survey being publicized on the Georgia Media listserv and the Georgia Library Media Association wiki. There were 72.8 % who were members of at least one professional organization and by actively seeking out information on the library media profession by belonging to the listserv or checking the wiki might skew these results. The surprise might be in that 27.2% indicated that they were not members of any professional organization. As mentioned, the cost might be a factor for some
joining a professional organization because most of the information can be acquired online at no cost to the user, like the information posted by listserv members and found on the wiki.

Significant differences were found in the level of endorsement of the groups for years of experience as a school library media specialist. The groups are new school library media specialists ($N = 100$), mid-career library media specialists ($N = 107$), and late-career library media specialists ($N = 98$). The groups are more evenly divided because of natural breaks in the years of experience the respondents indicated. New library media specialists had less than 5 years experience. Mid-career library media specialists had between 6 and 12 years experience and late career library media specialists had more than 13 years experience. The level of endorsement for the late-career group was significantly greater than the new group for Belief 3 (Ethical behavior in the use of information must be taught). This might be attributed as a sign of the times, since information is so readily available online that some of the younger generation do not see it as an ethical violation to share information without crediting it to the original developer. Online information has almost become expected to be free and uninhabited by copyright constraints. The level of endorsement for the other beliefs was not found to be significantly different among the school library media years of experience groups. The level of implementation for Belief 2 (Inquiry provides a framework for learning) was found to be significantly higher for the late-career group when compared to both the other groups. This result might be attributed to the nature of the library media education programs and the changes in the training of school library media specialists, but inquiry-based instruction is making a come-back and will cycle through the education world again as evidenced by the inclusion in these belief statements. No significant differences were noted for the level of implementation of the other beliefs.
Once again, there were no significant differences in the level of endorsement of the four standards among the school library media years of experience groups. No significant difference was found for the level of implementation of the standards when the groups’ responses were compared.

The participants were divided into three groups to analyze the years of teaching experience before entering the school library media profession. The groups were divided up into those with no prior teaching experience (N = 94), those with 1 to 7 years experience (N = 105), and those with more than 8 years experience (N = 106). No significant difference was found for the level of endorsement of the beliefs between any of the groups. No significant difference was found for the level of implementation of the beliefs between any of the groups. It was anticipated that the group with no teaching experience would have significantly different levels of endorsement for the beliefs, but the data were not analyzed for the combined number of years in education so some of those with no prior teaching experience had started their careers more than 20 years ago in the school library media center. A school library media specialist’s total years in the education field and the perceptions of the level of endorsement and the level of implementation of the standards is an area that needs further study. No significant difference was found in the comparison of the groups’ level of implementation of the beliefs. Neither was there any differences found in the comparison of the groups’ level of endorsement or the groups’ level of implementation of the standards.

The Standards for the 21st-Century Learner are organized with the nine beliefs undergirding the four new standards. Then each of the four standards is supported by four strands: skills, dispositions in action, responsibilities, and self-assessment. The participants were asked to rate their level of endorsement and level of implementation for each of these using the
same 1 (*none*) to 7 (*full*) scale. Analyses were conducted to determine whether there was a significant relationship between the level of endorsement and the level of implementation. Each item in the strands was compared to its overlying standard to determine whether there were significant differences when the responses to these strand items were compared with the responses to each corresponding standard using the whole group responses (*N* = 305).

The significant differences found in the level of endorsement in the strands when compared with the overlying standard can most likely be attributed to the use of familiar vocabulary that correlates with *Information Power* and the use of new educational concepts with which school library media specialists might still be unfamiliar. The roles of the library media specialist as outlined in *Information Power* have been in effect for more than 20 years. The skills, dispositions in action, responsibilities, and self-assessments that seemed to be significantly less than the overlying standard in the level of endorsement were the ones that introduced new concepts to the role of the school library media program. The level of endorsement was found to be significantly less than the overlying standard for the majority of the items in the strands. The following are examples from each of the strands that were found to be endorsed significantly less than the overlying Standard 1:

*Skill 1.1.1:* Follow an inquiry-based process in seeking knowledge in curricular subjects, and make the real world connection for using this process in own life.

*Disposition in Action 1.2.6:* Display emotional resilience by persisting in information searching despite challenges.

*Responsibility: 1.3.2* Seek divergent perspectives during information gathering and assessment.
Self-Assessment: 1.4.1 Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.

One of the respondents wrote in the comment section, “The use of the wording *21st-Century Learner* sounds impressive, but lacks specifics or any real meaning.” Another participant wrote, “These standards are deep and incredibly important, yet will take time to become ingrained in a program as they are hard to wrap your head around. They are much less concrete than those we are used to achieving.” If these comments are indicative of the perceptions of the school library media specialists, then the new standards may take some time to become part of the library media program vernacular. Similar results were found for the level of implementation ratings when compared to the overlying standard.

The level of endorsement was significantly greater than the level of implementation for every belief, standard, and strand. The *Standards for the 21st-Century Learner* document has a high level of endorsement, but the level of implementation is lagging for every item. Coleman (1982) found that the instructional role of the library media professional was neither valued nor implemented at the level expected. Some progress has been made in the level of endorsement of the standards, but the level of implementation was still found to be significantly less than anticipated. This might be attributed to the newness of the standards, though Coleman conducted his study several years after the 1975 standards were published and still found a discrepancy in the implementation of the instructional areas. A study of the 1988 and 1998 editions of *Information Power* found that library media specialists perceive the roles described in these versions of the standards to be more important than they were actually able to implement (McCraeken, 2000). The gap between the level of endorsement of the beliefs and the level of implementation of the beliefs, standards, and strands will probably always exist, but can be
narrowed as the *Standards for the 21st-Century Learner* becomes an accepted part of the educational landscape.

**Limitations**

This study had a number of limitations. Because only Georgia school library media specialists participated in the survey, broader generalizations of the study will be difficult. While the response rate was almost adequate and the sample pool had been exhausted, a higher response rate would have made generalizations more acceptable. The survey was based on exact wording of the *Standards for the 21st-Century Learner*; and it was considered long and tedious to read and answer. A higher response rate might have been obtained if the survey had been broken down into separate sections.

**Recommendations**

Based on the findings, the national organization will need to continue the concerted effort to publicize the *Standards for the 21st Century Learner*. Use the past models for successful launches of the standards, for example the public relations campaign that surrounded the publication of the 1960 school library standards. The process seems to be in affect now with the publication of the companion documents including *Empowering Learners: Guidelines for School Library Media Programs* and *Standards for the 21st-Century Learner in Action*. The standards need to be accessible not only to school library media specialists, but to every member of the education community. Intensive professional development needs to take place so that school library media specialists are familiar and comfortable with the wording of the entire document. It seems many library media specialists view the new standards as ideals, not obtainable goals for
use in their library media programs. Library media professionals should be knowledgeable about their own standards so they can support the students, teachers, and administrators with their successful library media program.

Because the level of endorsement of the beliefs, standards, and strands seems to be relatively high, then an effort should be made to increase the level of implementation to greater degree. The skills, dispositions in action, responsibilities, and self-assessments need to provide a realistic view of standards. These strands need to be refined and updated in a continuous cycle.

As a profession, school library media specialists have adapted to new mediums, innovative instructional technologies, and the explosion of informational resources. An effort should be made to attract to the school library media profession people who will continue this practice by growing school library programs despite all the barriers.

The focus of these standards is on the learner, but implicit within every standard and indicator is the necessity of a strong school library media program that offers a highly-qualified school library media specialist, equitable access to up-to-date resources, dynamic instruction, and a culture that nurtures reading and learning throughout the school, (AASL, 2009, p. 5)

It is recommended that the each school community strive to provide students with an instructionally sound library media program, which is led by a professional, adequately funded and supported by all members of the school community.

Implications for Educators

The goal of an instructionally sound library media program in every school should be the main focus of the school library media organizations. With the explosion of available information, students will need guidance on finding, using, and presenting this information effectively. The Standards for the 21st-Century Learner seem to have a relatively high level of
endorsement among library media specialists and as the standards become more known the level of implementation should also rise. A successful launch of the action plan and public relations plan will help toward the achievement of this goal. The new school library standards are written so they can easily overlay any of the national content and subject standards. The content and subject standards all include areas where the use, production, and presentation of information effectively can be integrated. These standards should not be kept within the confines of the school library field, but should be publicized and infused into all areas of education.

The school library organizations at all levels need to use these standards to publicize their willingness to collaborate with other educational organizations like they have in the past. The national organization should reach out to other educational organizations to assist with the action plan which should be continuously under review and refinement. The development of a different action plan for select content areas and target groups would help to increase the collaboration among the educational communities. There are many different ways to accomplish the increase in collaboration among organizations including presenting at other organizations’ conferences, writing articles for different subject area journals, publishing information online, and working together on projects related to the standards.

With the release of the new standards, school library media education preparation programs have an opportunity to take a close look at their curriculum to see if they have shifted the focus toward the instruction of students and collaboration with teachers and away from program administration. While program administration is still an important variable, school library media education preparation programs need to increase the amount of time spent on student instruction and teacher collaboration. Time spent on specific instructional technologies that might soon be obsolete would be better spent on methods of teaching others how to
effectively find, use, and present information. Since these standards have implications for all areas of education, instructors in the school library media education field should find a way to get this information into required introductory education courses either as a unit of instruction or as an entire course on effectively using the school library media program. The level of endorsement was relatively high for all the beliefs, standards, and strands, but the level of implementation was found to be significantly less, so increasing instruction on the methods of implementing the standards would be an area on which the preparation programs will want to focus. Providing better trained library media specialists to the profession can only improve the education of all since the school library media program is there to serve all students and teachers.

School-level library media specialists will need to become as familiar with these standards as they are with the previous standards in Information Power. As time progresses, the level of implementation will probably rise toward the level of endorsement. School library media specialists should find ways to use the new standards to increase their collaboration with all subject and content areas. They are their own best positive exposure for their school library media programs by effectively implementing and publicizing the new school library media standards. Work at every level should continue to provide every student and teacher with the services of an effective school library media program which is led by a professional, adequately funded, and supported by all members of the school community.

Recommendations for Further Study

A national study of school library media specialists would increase the generalizations that could be made about the level of endorsement and the level of implementation of the standards. A study of the level of endorsement of these standards by students, teachers, and
administrators would provide a wealth of information on how school library media programs are perceived. Every few years this study should be revisited to gauge how the level of endorsement and the level of implementation have changed. The continued study of effective school library media programs, which are led by professionals, adequately funded, and supported by all members of the school community, should remain a priority for the profession.
REFERENCES


APPENDIX A

SURVEY INSTRUMENT
Perceptions of the AASL Standards for the 21st Century Learner

1. Demographics

* 1. How many years have you been employed as a school library media specialist?

* 2. How many years full-time teaching experience prior to your employment as a school library media specialist do you have?

3. What subject area did you teach prior to becoming a school library media specialist?

* 4. What level school are you currently employed as a school library media specialist?
   - Elementary
   - Middle
   - High
   - Other

   Other (please specify)

* 5. Select the professional organizations of which you are a member:
   - GLMA
   - GLA
   - GAIT
   - AASL
   - AECT
   - ISTE
   - Other
   - None

   Other (please specify)
Perceptions of the AASL Standards for the 21st Century Learner

2. Common Beliefs and Standards

Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Common Beliefs and Standards from the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

Full endorsement means you totally agree with the statement as part of a successful school library media program. Full implementation means you actively find and use strategies that address the belief in your school library media program.

* 1. Please select the number (1-7) most closely identified with your level of endorsement and implementation of Common Beliefs from the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or full implementation.

<table>
<thead>
<tr>
<th>Belief</th>
<th>Endorsement</th>
<th>Implementation</th>
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<tbody>
<tr>
<td>Reading is a window to the world.</td>
<td></td>
<td></td>
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<tr>
<td>Inquiry provides a framework for learning.</td>
<td></td>
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<tr>
<td>Ethical behavior in the use of information must be taught.</td>
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<tr>
<td>Technology skills are crucial for future employment needs.</td>
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<tr>
<td>Equitable access is a key component for education.</td>
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<tr>
<td>The definition of information literacy has become more complex as resources and technologies have changed.</td>
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<tr>
<td>The continuing expansion of information demands that all individuals acquire the thinking skills that will enable them to learn on their own.</td>
<td></td>
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<tr>
<td>Learning has a social context.</td>
<td></td>
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<tr>
<td>School libraries are essential to the development of learning skills.</td>
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</tbody>
</table>
Perceptions of the AASL Standards for the 21st Century Learner

*2. Please select the number (1-7) most closely identified with your level of endorsement and implementation of the four standards from the AASL Standards for the 21st –Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or full implementation.

<table>
<thead>
<tr>
<th>Standard</th>
<th>Endorsement</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard 1. Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.</td>
<td>□□□□□□□</td>
<td>□□□□□□□</td>
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<tr>
<td>Standard 2. Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.</td>
<td>□□□□□□□</td>
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<tr>
<td>Standard 3. Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.</td>
<td>□□□□□□□</td>
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<tr>
<td>Standard 4. Learners use skills, resources, and tools to pursue personal and aesthetic growth.</td>
<td>□□□□□□□</td>
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</tbody>
</table>

3. Please provide any additional comments you might have about Common Beliefs and Standards from the AASL Standards for the 21st –Century Learner.
Perceptions of the AASL Standards for the 21st Century Learner

### 3. Standard One

Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard One of the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

Full endorsement means you totally agree with the statement as part of a successful school library media program. Full implementation means you actively plan for and teach or otherwise address the items in Standard One including skills, dispositions in action, responsibilities and self-assessment strategies in your school library media program.

**1. Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard One of the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.**

<table>
<thead>
<tr>
<th>Standard 1. Learners use skills, resources, and tools to inquire, think critically, and gain knowledge.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Skills: 1.1.1 Follow an inquiry-based process in seeking knowledge in curricular subjects, and make the real world connection for using this process in own life.</td>
</tr>
<tr>
<td>1.1.2 Use prior and background knowledge as context for new learning.</td>
</tr>
<tr>
<td>1.1.3 Develop and refine a range of questions to frame the search for new understanding.</td>
</tr>
<tr>
<td>1.1.4 Find, evaluate, and select appropriate sources to answer questions.</td>
</tr>
<tr>
<td>1.1.5 Evaluate information found in selected sources on the basis of accuracy, validity, appropriateness for needs, importance, and social and cultural context.</td>
</tr>
<tr>
<td>1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.</td>
</tr>
<tr>
<td>1.1.7 Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.</td>
</tr>
<tr>
<td>1.1.8 Demonstrate mastery of technology tools for accessing information and pursuing inquiry.</td>
</tr>
<tr>
<td>1.1.9 Collaborate with others to broaden and deepen understanding.</td>
</tr>
<tr>
<td>1.2 Dispositions in action: 1.2.1 Display initiative and engagement by posing questions and investigating the answers beyond the collection of superficial facts.</td>
</tr>
<tr>
<td>1.2.2 Demonstrate confidence and self-direction by making independent choices in the selection of resources and information.</td>
</tr>
<tr>
<td>1.2.3 Demonstrate creativity by using multiple resources and formats.</td>
</tr>
</tbody>
</table>

| Endorsement | Implementation |
### Perceptions of the AASL Standards for the 21st Century Learner

1.2.4 Maintain a critical stance by questioning validity and accuracy of all information.

1.2.5 Demonstrate adaptability by changing the inquiry focus, questions, resources, or strategies when necessary to achieve success.

1.2.6 Display emotional resilience by persisting in information searching despite challenges.

1.2.7 Display persistence by continuing to pursue information to gain a broad perspective.

1.3 Responsibilities: 1.3.1 Respect copyright/intellectual property rights of creators and producers.

1.3.2 Seek divergent perspectives during information gathering and assessment.

1.3.3 Follow ethical and legal guidelines in gathering and using information.

1.3.4 Contribute to the exchange of ideas within the learning community.

1.3.5 Use information technology responsibly

1.4 Self-Assessment Strategies: 1.4.1 Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.

1.4.2 Use interaction with and feedback from teachers and peers to guide own inquiry process.

1.4.3 Monitor gathered information and assess for gaps or weaknesses.

1.4.4 Seek appropriate help when it is needed.

### 2. Please provide any additional comments you might have about Standard One from the AASL Standards for the 21st-Century Learner.


Perceptions of the AASL Standards for the 21st Century Learner

4. Standard Two

Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard Two of the AASL Standards for the 21st-Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

Full endorsement means you totally agree with the statement as part of a successful school library media program. Full implementation means you actively plan for and teach or otherwise address the items in Standard Two including skills, dispositions in action, responsibilities and self-assessment strategies in your school library media program.

* 1. Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard Two of the AASL Standards for the 21st-Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

<table>
<thead>
<tr>
<th>Standard 2: Learners use skills, resources, and tools to draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.</th>
<th>Endorsement</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Skills: 2.1.1 Continue an inquiry-based research process by applying critical-thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.</td>
<td></td>
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<tr>
<td>2.1.2 Organize knowledge so that it is useful.</td>
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<tr>
<td>2.1.3 Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations.</td>
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<tr>
<td>2.1.4 Use technology and other information tools to analyze and organize information.</td>
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<tr>
<td>2.1.5 Collaborate with others to exchange ideas, develop new understandings, make decisions, and solve problems.</td>
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<tr>
<td>2.1.6 Use the writing process, media and visual literacy, and technology skills to create products that express new understandings</td>
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<tr>
<td>2.2 Dispositions in Action: 2.2.1 Demonstrate flexibility in the use of resources by adapting information strategies to each specific resource and by seeking additional resources when clear conclusions cannot be drawn.</td>
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<tr>
<td>2.2.2 Use both divergent and convergent thinking to formulate alternative conclusions and test them against the evidence.</td>
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<tr>
<td>2.3.3 Employ a critical stance in drawing conclusions by demonstrating that the pattern of evidence leads to a decision or conclusion</td>
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<tr>
<td>2.4 Demonstrate personal productivity by completing products to express learning.</td>
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<tr>
<td>2.3 Responsibilities: 2.3.1 Connect understanding to the real world.</td>
<td></td>
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<tr>
<td>2.3.2 Consider diverse and global perspectives in drawing conclusions.</td>
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<tr>
<td>Perceptions of the AASL Standards for the 21st Century Learner</td>
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<tr>
<td>2.3.3 Use valid information and reasoned conclusions to make ethical decisions.</td>
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<tr>
<td>2.4 Self-Assessment Strategies: 2.4.1 Determine how to act on information (accept, reject, modify).</td>
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<tr>
<td>2.4.2 Reflect on systematic process, and assess for completeness of investigation.</td>
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<tr>
<td>2.4.3 Recognize new knowledge and understanding.</td>
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<tr>
<td>2.4.4 Develop directions for future investigations.</td>
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</tbody>
</table>

**2. Please provide any additional comments you might have about Standard Two from the AASL Standards for the 21st Century Learner.**
Perceptions of the AASL Standards for the 21st Century Learner

5. Standard Three

Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard Three of the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

Full endorsement means you totally agree with the statement as part of a successful school library media program. Full implementation means you actively plan for and teach or otherwise address the items in Standard Three including skills, dispositions in action, responsibilities and self-assessment strategies in your school library media program.

*1. Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard Three of the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

<table>
<thead>
<tr>
<th>Standard 3. Learners use skills, resources, and tools to share knowledge and participate ethically and productively as members of our democratic society.</th>
<th>Endorsement</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 Skills: 3.1.1 Conclude an inquiry-based research process by sharing new understandings and reflecting on the learning.</td>
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<tr>
<td>3.1.2 Participate and collaborate as members of a social and intellectual network of learners.</td>
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<tr>
<td>3.1.3 Use writing and speaking skills to communicate new understanding effectively.</td>
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<tr>
<td>3.1.4 Use technology and other information tools to organize and display knowledge and understanding in ways that others can view, use, and assess.</td>
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<tr>
<td>3.1.5 Connect learning to community issues.</td>
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<tr>
<td>3.1.6 Use information and technology ethically and responsibly.</td>
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<tr>
<td>3.2 Dispositions in Action: 3.2.1 Demonstrate leadership and confidence by presenting ideas to others in both formal and informal situations.</td>
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<tr>
<td>3.2.2 Show social responsibility by participating actively with others in learning situations and by contributing questions and ideas during group discussions.</td>
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<tr>
<td>3.2.3 Demonstrate teamwork by working productively with others.</td>
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<tr>
<td>3.3 Responsibilities: 3.3.1 Solicit and respect diverse perspectives while searching for information, collaborating with others, and participating as a member of the community.</td>
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<tr>
<td>3.3.2 Respect the differing interests and experiences of others, and seek a variety of viewpoints.</td>
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<tr>
<td>3.3.3 Use knowledge and information skills and dispositions to engage in public conversation and debate around issues of common concern.</td>
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</table>
Perceptions of the AASL Standards for the 21st Century Learner

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<tbody>
<tr>
<td>3.3.4</td>
<td>Create products that apply to authentic, real-world contexts.</td>
</tr>
<tr>
<td>3.3.5</td>
<td>Contribute to the exchange of ideas within and beyond the learning community.</td>
</tr>
<tr>
<td>3.3.6</td>
<td>Use information and knowledge in the service of democratic values.</td>
</tr>
<tr>
<td>3.3.7</td>
<td>Respect the principles of intellectual freedom.</td>
</tr>
<tr>
<td>3.4</td>
<td>Self-Assessment Strategies: 3.4.1 Assess the processes by which learning was achieved in order to revise strategies and learn more effectively in the future.</td>
</tr>
<tr>
<td></td>
<td>3.4.2 Assess the quality and effectiveness of the learning product.</td>
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<tr>
<td></td>
<td>3.4.3 Assess own ability to work with others in a group setting by evaluating varied roles, leadership, and demonstrations of respect for other viewpoints.</td>
</tr>
</tbody>
</table>

2. Please provide any additional comments you might have about Standard Three from the AASL Standards for the 21st Century Learner.
Perceptions of the AASL Standards for the 21st Century Learner

6. Standard Four

Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard Four of the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

Full endorsement means you totally agree with the statement as part of a successful school library media program. Full implementation means you actively plan for and teach or otherwise address the items in Standard Four including skills, dispositions in action, responsibilities and self-assessment strategies in your school library media program.

* 1. Please select the number (1-7) most closely identified with your level of endorsement and your level of implementation of Standard Four of the AASL Standards for the 21st Century Learner. Selecting 1 represents the least level of endorsement or implementation and 7 represents full endorsement or implementation.

<table>
<thead>
<tr>
<th>Standard 4. Learners use skills, resources, and tools to pursue personal and aesthetic growth.</th>
<th>Endorsement</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.1 Read, view, and listen for pleasure and personal growth.</td>
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<tr>
<td>4.1.2 Read widely and fluently to make connections with self, the world, and previous reading.</td>
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<tr>
<td>4.1.3 Respond to literature and creative expressions of ideas in various formats and genres.</td>
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<tr>
<td>4.1.4 Seek information for personal learning in a variety of formats and genres.</td>
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<tr>
<td>4.1.5 Connect ideas to own interests and previous knowledge and experience.</td>
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<tr>
<td>4.1.6 Organize personal knowledge in a way that can be called upon easily.</td>
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<tr>
<td>4.1.7 Use social networks and information tools to gather and share information.</td>
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<tr>
<td>4.1.8 Use creative and artistic formats to express personal learning.</td>
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<tr>
<td>4.2 Dispositions in Action: 4.2.1 Display curiosity by pursuing interests through multiple resources.</td>
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<tr>
<td>4.2.2 Demonstrate motivation by seeking information to answer personal questions and interests, trying a variety of formats and genres, and displaying a willingness to go beyond academic requirements.</td>
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<tr>
<td>4.2.3 Maintain openness to new ideas by considering divergent opinions, changing opinions or conclusions when evidence supports the change, and seeking information about new ideas encountered through academic or personal experiences.</td>
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<tr>
<td>4.2.4 Show an appreciation for literature by electing to read for pleasure and expressing interest in various literary genres.</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>4.3 Responsibilities:</th>
<th>4.3.1 Participate in the social exchange of ideas, both electronically and in person.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3.2 Recognize that resources are created for a variety of purposes.</td>
<td></td>
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<tr>
<td>4.3.3 Seek opportunities for pursuing personal and aesthetic growth.</td>
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</tr>
<tr>
<td>4.3.4 Practice safe and ethical behaviors in personal electronic communication and interaction.</td>
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</tr>
<tr>
<td>4.4 Self-Assessment Strategies:</td>
<td>4.4.1 Identify own areas of interest</td>
</tr>
<tr>
<td>4.4.2 Recognize the limits of own personal knowledge.</td>
<td></td>
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<tr>
<td>4.4.3 Recognize how to focus efforts in personal learning.</td>
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<tr>
<td>4.4.4 Interpret new information based on cultural and social context.</td>
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<tr>
<td>4.4.5 Develop personal criteria for gauging how effectively own ideas are expressed.</td>
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</tr>
<tr>
<td>4.4.6 Evaluate own ability to select resources that are engaging and appropriate for personal interests and needs.</td>
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</tr>
</tbody>
</table>

2. Please provide any additional comments you might have about Standard Four from the AASL Standards for the 21st –Century Learner.
Perceptions of the AASL Standards for the 21st Century Learner

7. Thank You for Completing the Survey.

Please provide any additional comments you might have in the space provided.

1. I have the following comments, suggestions, or questions about school library media programs.

   [Space for comments]
Please consider taking the survey found at the end of this email. Please forward to all Georgia School Library Media Specialists in your contact lists. The survey consists of reading through the *AASL Standards for the 21st Century Learner* and rating your level of endorsement and level of implementation. Thanks in advance for your participation.

Cawood Cornelius  
EdD Candidate

Cawood Cornelius, Principal Investigator from the University of Alabama, is conducting a research study called Survey of School Library Media Specialists’ Perceptions of the *AASL Standards for the 21st Century Learner*. He wishes to find out how the *AASL Standards for the 21st Century Learner* (2007) is perceived by school level library media specialists including their level of endorsement and level of implementation.

Taking part in this research study is completely voluntary. Taking part in this research study involves completing a web survey that will take about 20 minutes. This survey contains questions about the level of endorsement and implementation of the beliefs and standards contained in *AASL Standards for the 21st Century Learner* (2007).

There are minimal risks associated with the completion of this survey. The risk that the confidentiality of your survey answers will be breached is slight. Your confidentiality risks will be minimized by the following protections. We will protect your confidentiality by not asking identifying information that will be attached to the data. The data are password protected and will only be accessed by the investigator. Only summarized data will be presented at meetings or in publications.

There will be no direct benefits to you except the altruistic feeling of contributing to research in the field of school libraries. The findings will be useful to the school library media profession for the purpose of continued research on the new beliefs and standards.

If you have questions about this research study, please contact Cawood Cornelius, principal investigator, by email (cawood.cornelius@gmail.com) or Dr. Douglas McKnight, research study advisor, by email (dmcknigh@bama.ua.edu) or phone (205-348-1449). If you have questions about your rights as a research participant, please contact the University Institutional Review Board at (205) 348-5152 or Tanta Myles, Director and Research Compliance Officer, by email (cmyles@fa.ua.edu) or phone (205-348-5746)

YOUR PARTICIPATION IN THIS RESEARCH STUDY IS COMPLETELY VOLUNTARY. You are free not to participate or stop participating any time before you submit your answers.

If you understand the statements above, are at least 19 years old, and freely consent to be in this study, click on the following link to begin.

Survey Link
APPENDIX C

IRB APPROVAL
March 24, 2009

Cawood Cornelius
Department of Educational Leadership
College of Education
The University of Alabama

Re: IRB # 09-OR-092 “Survey of School Literacy Media in Specialists’ Perceptions of the AASL Standards for the 21st Century Learner”

Dear Mr. Cornelius:

The University of Alabama Institutional Review Board has granted approval for your proposed research.

Your application has been given expedited approval according to 45 CFR part 46. Approval has been given under expedited review category 7 as outlined below:

(7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your application will expire on March 23, 2010. You will receive a notice of the expiration date 90 days in advance. If your research will continue beyond this date, complete the relevant portions of Continuing Review and Closure Form. If you wish to modify the application, complete the Modification of an Approved Protocol Form. When the study closes, complete the appropriate portions of FORM: Continuing Review and Closure.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

Carpantato T. Myles, MSM, CIM
Director & Research Compliance Officer
Office for Research Compliance
The University of Alabama
APPENDIX D

RESULTS FROM THE COMMENT SECTIONS
Results from the Comment Sections

The survey provided a place for the respondents to comment after responding to their perceived level of endorsement and level of implementation for each item. The comments are verbatim, though some spelling corrections have been made for clarification.

Comment Section-Common Beliefs and Standards

Please provide any additional comments you might have about Common Beliefs and Standards from the AASL Standards for the 21st Century Learner.

1. #1 The definition of information literacy has not necessarily changed due to more complex resources and technologies. Information literacy is still the ability to access, use, and evaluate information; no matter the resource and technology. This belief should have been worded differently.

2. As SLMS, my levels of implementation indicated above are more indicative of what goes on school wide rather than in my personally designed learning activities.

3. At my particular school they are actually taking me away from technology and giving more responsibility to the tech at our school or computer teachers, etc. I feel like I could do the better job teaching resource skills and web critiquing than these individuals.

4. From the moment we wake up in the morning until the moment we go to bed at night, we are exposed to hundreds of images by the media. The definition of literacy must now include media literacy. Few English teachers feel comfortable teaching media literacy, however, although it is now a part
of the English language arts standards in many states. This is an area that LMS should take initiative to provide students with the skills to critically evaluate and understand the techniques used by the media to entertain, sell, persuade, influence us politically and transmit culture.

5. Georgia Performance Standards sometimes prohibit full implementation of 21-Century Learning standards.

6. I believe information technology is one of our best means of motivating reluctant students. As media specialists, we must help our colleagues restructure their “old favorite assignments” to include projects based in technology.

7. I don’t necessarily believe that the definition of information literacy changes with the complexity of resources/technologies; I do believe that information literacy itself becomes more complex.

8. I find these very difficult to align with GPS; I have tried previously.

9. I support the standards. I wasn’t sure how to rate the level of implementation for some statements.

10. I think digital scoring systems will help assess learner needs and achievements. I think it is essential that students have access to web-based educational databases and tools (Galileo, reading assessment programs such as Accelerated Reader or Reading Counts...) and school library resources. These resources should be available through the Internet on any computer with web access.
11. I think these are great and I am looking forward to these being aligned with the GPS.

12. I try to put these into every document that I CO-create with classroom teachers so they see my INFO standards and realize how much they are aligned with their own subject content area standards. As a NCBT in Media, I can’t see NOT using these national standards in your instructional program!

13. I wish AASL had provided specific details by grade level as to the skills that LMS should strive to implement and teach. (The use of the wording “21st-Century Learner” sounds impressive, but lacks specifics or any real meaning.) I am glad that Information Power in not obsolete as it provides more details than the AASL Standards for the 21st-Century Learner.

14. I would love to be able to fully implement all of the technology standards from AASL, but the reality is that we don’t have the technology in our school to be able to teach the kids what they need to know, and I don’t have the time I need to teach them much of anything. I am required to “teach the test” for the CRCT for any standard that relates to media centers. I am also required to teach GA State standards that apply to media center knowledge. On top of that, I try to teach the kids how to actually find books in the media center. Since I only see them once a week for 30 minutes, it’s hard to work on technology “extras” (as the administration would term it).

15. In my school I don’t have enough access to integrate 21st century skills, since I collaborate only in lesson planning. I teach in a Title 1 school and
the teaching is very prescriptive, but I do the best I can, when I can get access to teaching these skills in the context of all lessons I do with the teachers.

16. Money must be made available to Media Centers in order to fully implement standards.

17. Need to make sure there is a more practical, “how-to” component -- perhaps not in the beliefs, but elsewhere

18. Often, my desire for full implementation is hampered by the time restraints and cost restrictions. See equitable access questions and the one below it for examples of this.

19. Often, the ability to fully implement the skills represented is hampered by financial restraints.

20. School system technology restrictions make #2 harder to implement.

21. The implementation of the beliefs and skills depends on many things, mainly NCLB. I implement them as much as I can within the parameters given by federal, state and local authorities. I don’t do all that I would like to do, but I do the best job that I can.

22. These standards are a shared responsibility of all educators and will never be successful if they are only applied in library media centers.

23. These standards are deep and incredibly important, yet will take time to become ingrained in a program as they are hard to wrap your head around. They are much less concrete than those we are used to achieving.
24. This model is so accurate in our ever changing world in the way technology impacts learning.

25. Trying to fully implement the AASL Standards often puts the LMS on a collision course with those who think the only way to improve test scores is to teach using the test format.

26. We must embrace the philosophy behind these standards in order for our students to become productive citizens of the future. We can’t teach all of the content when it hasn’t even been thought of! We must teach the “how” and the intrinsic desire of inquiry learning.

27. While I may fully agree with the Common Beliefs, it takes the cooperation of the classroom teachers to implement them. How do you teach ethical behavior in the use of information if the teachers don’t bring the children to the media center or let you know when they are doing research projects?

Comment Section-Standard One

Please provide any additional comments you might have about Standard One from the AASL Standards for the 21st –Century Learner.

1. Although I fully endorse all the standards, many of them are difficult to implement at the lower grades that I work with.

2. I am viewed as either an introduction or as a supplement to instruction; rarely do I get 2nd chances with the students, except I am very involved in research with our Special Education students, and often help fill in the weak or redo areas.
3. I think the students of today need to learn a lot about copyright and plagiarism.

4. It is getting more and more difficult to get teachers to collaborate and use media Center resources in the face of pressures to make AYP. They are becoming more and more test-oriented.

5. Real world connections are key to true transference of knowledge and skills. In our assessment-driven atmosphere, real-world connections through project-based learning and inquiry-based learning have suffered as time is devoted to testing rather than critical thinking. For “Demonstrate mastery of technology tools for accessing information and pursuing inquiry” we are reaching mastery in scaffolded steps to produce a graduate that may be at the mastery level upon graduation. Until then, I do not think mastery can be reached and indeed probably will not be reached by 12th grade. That’s the essence of a lifelong learner. We are always learning, growing, and mastering new information and technologies. For “Display initiative and engagement by posing questions and investigating the answers beyond the collection of superficial facts” again we have the issue of assessment-driven curriculum. Teachers do not “have the time” to do more than superficial (or so they think). In fact, a critical thinking based project could teach so much more than the superficial project, but teachers tend to drive more to the test. “Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.” Ongoing battle to teach students to evaluate their work.
6. Some of these are limited by their appropriateness to the developmental levels of elementary students and by time restrictions in the schools. These things affected my implementation rankings.

7. Some of these standards are too advanced for elementary school students.

8. The high stakes testing environment severely limits the amount of time teachers are willing to spend on inquiry projects.

9. The leadership in the building does not have a solid grasp of the copyright laws so it is not “enforce-able.”

10. These are shared responsibilities by everyone involved in the teaching/learning community.

11. We don’t allow key word searches on an Internet browser. We do allow such searches within Galileo, which now includes Google and Google Scholar. We do teach the benefit of using educational databases, rather than browsing -- a search for Madam Currie might bring up someone completely inappropriate...

Comment Section-Standard Two

Please provide any additional comments you might have about Standard Two from the AASL Standards for the 21st –Century Learner.

1. Again, “Use strategies to draw conclusions from information and apply knowledge to curricular areas, real-world situations, and further investigations” application suffers due to the assessment-driven curriculum.
2. Dream on, I would love to work in an environment where I had this much input and impact truly affects implementation! The teachers and administrators are fully aware of my commitment to 21st century thinking and interpreting skills to draw conclusions; there is just not time nor access in the environment where I work to implement at the levels this survey suggests.

3. High stakes testing environment severely limits the amount of time teachers are willing to invest in process learning experiences.

4. I collaborate with teachers as much as possible. There are still those who won’t collaborate, but I try to communicate with all subject/grade teachers and offer to work with them to teach lessons. Often, I am asked to work in technology standards and elements.

5. I think the students of today need help with real life situations.

6. It’s hard to implement the standards when the whole focus is on passing the standardized test. I teach to the test like everyone else in the school.

7. These are all worthy goals, but it would be impossible to teach them all in the short time that teachers give you. Teachers are reluctant to let media specialist have class time to teach media skills.

8. We have a long way to go to loosen the constraints the students feel to complete an assignment completely and correctly AND to see the assignment as a learning and growth process. Critical thinking skills are “critical” and we are not developing these skills as they need to be developed.
9. While I fully endorse these standards, implementing some of the maturer ones in an elementary setting where the most basic skills are being taught cannot always be done to full capacity. We are not just teaching standards; we are teaching learners, and we must build towards standards mastery along the whole continuum of grade levels; all cannot ordinarily be achieved at the elementary level where more basic skills need to be internalized and practiced first.

Comment Section-Standard Three

Please provide any additional comments you might have about Standard Three from the AASL Standards for the 21st–Century Learner.

1. “Use knowledge and information skills and dispositions to engage in public conversation and debate around issues of common concern.” I do not think we do enough debate. Debate requires high level thinking processes and extensive exposure to knowledge and ideas. Debate is a useful culminating activity that could encourage higher level thinking and application of concepts to real-world situations. So many of the AASL elements deal with global connectivism and real-world application. This aspect of information literacy and an information literate student is contrary to NCLB and the emphasis on superficial learning and multiple-choice assessment.

2. Because of the high stakes testing environment, teachers are reluctant to initiate group learning activities.
3. I’m getting depressed and confused, me or the reality of my school. Full implementation is impossible in a collaborative environment and my workplace is much more mundane than these skills imply. I wish! Can I move to Australia?

4. In theory I endorse all of these - in the real world, I can implement some of them.

5. These questions are too complicated to give realistic answers, especially on a scale of 1 to 7

6. Through national certification and working on my educational specialist’s degree, I now realize the value of assessments in all aspects of the learning process.

Comment Section-Standard Four

Please provide any additional comments you might have about Standard Four from the AASL Standards for the 21st –Century Learner.

1. “Use creative and artistic formats to express personal learning.” This benefits the “whole new mind” Daniel Pink discusses. Our students need the creative outlet for learning and so many times, this facet of learning is ignored.

2. I specifically applied these to myself and not to the services I necessarily offer to staff and students yet.

3. Our use of blogs, wikis, and other Web 2.0 utilities, plus our reading promotions encourage our students in these areas.
4. Personal, theoretical or real life? This is way too abstract considering the day to day challenges and “things” that have to be done in an elementary setting! I wish!

5. Students do not have emails at school and do not have individual logins per the technology specialist. I have used blogging and media center generic email accounts for student research group projects and also with my book club members, who have created reading blogs this year.

Comment Section for Entire Survey

I have the following comments, suggestions, or questions about school library media programs.

1. Administrators must partner with media specialists to encourage collaboration with classroom teachers. Media specialists have “S” certificates and must be available to serve all patrons throughout the day...and sometimes beyond that. Media specialists should not be included in schedule rotations (like art, music, PE...) to provide planning time for teachers. We need standards and rules that have specific wording to support the media program and media specialist. We need control of budgets. The library media specialist should be a partner with administrators and technology specialists when computers and software are purchased and distributed. Library media centers need money to upgrade reading programs and library automation to web-based versions so patrons can access and use resources in a 21st Century learning environment.
2. Although many felt this survey was too long (especially at this time of the year.) It would have been helpful to have some sort of rubric on which to measure these questions and our answers.

3. Education Colleges need to work with all education candidates on collaboration and a better understanding of these standards.

4. It is imperative for a school to be equipped with at least one certified school library media specialist and one assistant so that students will have the proper and necessary preparations for a 21st century world.

5. It would be nice if some of our organizations could provide the intense type of training for media specialists about how to unpack and utilize the standards to change our teaching practices similar to how Georgia DOE has done for teachers in learning to utilize the GPS.

6. Keep them staffed with professionals. MC’s are for everyone to learn and be accessible too.

7. Lack of, or limited or old technology effects the implementation of many of these standards. You can’t do what you don’t have.

8. Lofty ideals sound good, but who has the time to plan for all these goals when you’re rushing through the day trying to keep the media center functioning smoothly.

9. School library media programs are “leadership” programs and we need to continue to work with library media specialists to reach beyond a “classroom” mentality and understand about leading a full “program”.

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10. School Library Programs are invaluable for helping students become divergent, active critical thinkers.

11. So much depends on your community, one’s principal and that working relationship, and the budgeted money for media and technology. You can get technology training, but if your budget is small, that means you have to search for grants, or be creative in fundraising. We need more money. We need more staff development. We have to reach out to other media specialists so we don’t become too isolated.

12. The standards are too wordy.

13. The testing mania of the current political atmosphere is harming our students’ and teachers’ inclinations to grow as thinkers and inquirers. When the pendulum swings away from education’s accountability to numbers and data, lifelong learning will be more successfully nurtured.

14. There is always room for improvement.

15. Very tedious survey format

16. We have no power to affect this much change in instruction!

17. While recognizing the importance of technology in today’s society, I feel that one of the most important roles of the school library media center is to promote reading and the love of all types of literature, especially at the elementary level. Seeing the joy in a student’s eyes when they are able to check out the book that they selected is priceless.