EARLY CHILDHOOD EDUCATION AND CHILD DEVELOPMENT FOR ELEMENTARY SCHOOL LIBRARIANS

by

Nova Bradfield

An Abstract
of a research paper submitted in partial fulfillment
of the requirements for the degree of
Master of Science in Library Science and Information Services
in the Department of Educational Leadership and Human Development
University of Central Missouri

July, 2011
ABSTRACT

by

Nova Bradfield

Many elementary school librarians have limited knowledge of early childhood education teaching practices and early childhood development. The connections between information literacy and early childhood education have not been explored sufficiently. Many school librarians dilute curriculum meant for older students in order to teach information literacy to young children, rather than using early childhood teaching methods for these young students. Also, because of the deficit of knowledge regarding early childhood development, selection methods of early childhood materials are unrefined. Studying early childhood teaching practices and early childhood development could lead to age-appropriate information literacy instruction and an approach to selecting books and materials that takes into account the developmental needs of young children.
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CHAPTER 1: INTRODUCTION

The traditional K-12 public school model has been evolving to support younger pre-kindergarten students. More districts are embracing the practice of universal preschool, which provides the option of attending a public preschool program regardless of ethnic or socioeconomic factors (Shore, Shue, and Lambert, 2010). Even though school librarians have early childhood students in their school population, training and staff development regarding early childhood teaching methods are not typically offered or encouraged. It is possible for a school librarian to never have had any formal education on early childhood teaching methods or child development, yet these school librarians have a responsibility to educate and select materials for this population.

Statement of the Problem

This paper discusses the deficit of knowledge regarding early childhood education and early childhood development in library programs and shows how this knowledge could affect instruction and selection. Research shows this knowledge of age-appropriate teaching and selection practices for early childhood students could lay a foundation for both literacy and information literacy in the elementary school.

Some early childhood educators and school librarians have expressed concern that from preschool to second grade, information literacy objectives are simply diluted and taught in the same manner that older students are being taught. School librarians are selecting books for young children, but many do not have knowledge of early childhood development and are using unrefined selection criteria for this population. The opportunity to lay a foundation for literacy and information literacy is being wasted.
because of a lack of information about what young children need and how this population learns best.

**Purpose of the Study**

The purpose of the study is to review the literature regarding how early childhood teaching practices and child development are being used to plan lessons and select materials for early childhood students in the library. This paper presents how using a developmental approach to teach young children information literacy skills and to selecting materials for young children could be influenced and enhanced by knowledge of this topic. Literature regarding early childhood education, early literacy in the school library, selection of early childhood materials, technology and young children, and information literacy in early childhood will be reviewed in this study.

The literature reviewed for this paper shows ways that library programs for young children can be improved by knowledge of early childhood development and also shows that this is currently an area of need in most elementary library programs. The literature in this paper covers ways to select books that will support emergent readers. The relationship between literacy and information literacy is also covered, including research models that are appropriate for young children, such as the “Super 3 Information Problem Solving Model” (citation). Early childhood teaching methods such as constructivism and print referencing are defined, and connections are made as to how they relate to library instruction and selection of materials. The topic of this research paper is educating school librarians on research-based, early childhood teaching methods and early childhood development, so that school librarians can better serve young children in the library by
providing developmentally appropriate information literacy instruction and by selecting age-appropriate materials.

**Research Questions**

The purpose of this paper is to illuminate the ways school librarians support their early childhood population by offering age-appropriate instruction in information literacy and by selecting books using developmental milestones as criteria for selection. The following questions will be addressed in this paper:

1. What should young children be learning in the library?
2. What resources or teaching strategies are available to aid in the teaching of information literacy to young children?
3. How does child development influence selection of materials in the library media center for young children?

**Limitations of the Study**

At the beginning of this study, it was not my intention to focus entirely on preschool instruction. I wanted to include preschool, but not to the exclusion of kindergarten and first grade students. However, because of the research I was able to locate, this study was mainly related to preschool instruction within the public school setting. When I began researching, I found quite a bit of research on young children, but was surprised by how much of this research focused on assessment. At the beginning of my search process I had a difficult time finding information about young children and information literacy. I was also surprised by how difficult it was to find information about kindergarten and first grade students that focused on them as early childhood
students. When I started this paper in the spring of 2009, the research on early childhood students was dominated by studies on emergent literacy, story times, and selection of age-appropriate books and technology. In the spring of 2011, I was able to find several articles that focused on teaching information literacy to young children.

**Definition of Terms**

This section includes terms and definitions that were used throughout this paper that might be unfamiliar to educators.

Collection: The total accumulation of books and materials housed within a library.

Constructivism: A learning philosophy where learners construct meaning through their experiences.

Early childhood: The time period from birth to age six.

Emergent literacy: The skills needed to become a fluent reader, usually acquired in the time period from birth into the preschool years.

Information literacy: This is the process of being able to successfully locate, evaluate, and use resources.

Internal text structures: This refers to how text is organized in a book. Some examples are descriptions, cause and effect, compare and contrast, and sequence.

International Children’s Digital Library: This is a non-profit digital library of children’s books from all over the world.

Inquiry based instruction: This is an instructional style based on the idea that learning may be facilitated by giving students the opportunity to explore an idea or question on their own (Chaille, 2008).
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Literacy space: This is a small center where young children are given the opportunity to play with games, books, puzzles, and manipulatives that have a literacy theme.

Print awareness: This is the awareness of the nature of print and how it is used.

Print referencing: This is the use of verbal and non-verbal cues used to encourage a student’s attention or interaction with print.

Print salient book: This is a book where print is an important aspect of the illustrator’s design (Justice & Vukelich, 2008).

Super3 Information Problem Solving Model: This is a simplified version of the Big 6 Problem Solving Model that guides students through the research process (citation).

Text features – These are features found within books and articles, such as headings, charts, graphs, maps, and bolded words.

Universal preschool – This is preschool that is offered free of charge by public schools to all four year old children regardless of academic abilities or socioeconomic factors.

**Research Design**

While I did visit the University of Central Missouri library once and checked out three books about early childhood education, the majority of my research was completed online. I used subscription databases provided by the university library and my school district, Google Scholar, and the ProQuest Research Library database. I used Library Literature & Information Full Text and Academic Search Elite extensively. Before I began, I generated a list of search terms that I used while researching. I searched for
articles using combinations of the terms early childhood, young children, information literacy, early childhood education, technology, developmental and age-appropriate.

One of the most interesting and frustrating resources I used was Google Scholar. When I turned to Google Scholar I was at a dead end in my research process and was surprised by how much easier it was to find relevant articles for my topic using Google Scholar versus the difficulty of searching the subscription databases. Some of the best articles I found were located using Google Scholar. The frustrating aspect of this search was that nearly no article was actually available on Google. Academic writing tends to be carefully protected and Google didn’t have the subscription rights to these articles. This resource proved to be very useful, however, because using the ProQuest Research Library database and phone assistance from university library staff, I was able to find the articles.

Conclusion

The topic of this research paper is educating school librarians on research-based, early childhood teaching methods and early childhood development so that school librarians can better serve young children in the library by selecting age-appropriate materials and by providing developmentally appropriate information literacy instruction. The next chapter of this paper will include information about early childhood education, early literacy in the school library, selection of early childhood materials, technology and young children, and information literacy in early childhood. The first section of this paper presents information on early childhood philosophies and teaching practices, with an emphasis on constructivism, learning through play, and print referencing. The second
section of this chapter will discuss early literacy in the school library, with an emphasis on emergent literacy instruction. Conclusions and implications for further research will be presented in the third chapter.
CHAPTER 2: REVIEW OF LITERATURE

The topic of this research paper is educating school librarians on research-based, early childhood teaching methods and early childhood development so that they can better serve young children in the library by providing developmentally appropriate instruction and by selecting age-appropriate materials. Many elementary school librarians have a large early childhood population to serve, especially with the addition of preschool classes to the elementary school. Some are teaching information literacy objectives to young children by diluting curriculum and methods used to teach upper elementary students without considering how these younger students learn best. If librarians study and put into practice research based strategies that are typically used by early childhood professionals, such as constructivism, print referencing, and learning through play, early childhood students will have a better foundation to begin their information literacy education.

Teaching is an important aspect of librarianship, but it is not the only area that can be improved by having knowledge of early childhood instruction and development. Librarians can make their collections reflect their population by choosing books and other materials that are developmentally appropriate for young children. In the first section of this chapter, teaching practices related to early childhood education are presented. Early literacy in the school library is discussed in the second section. The second section will present how knowledge of early childhood development can provide a school librarian with selection criteria when choosing age-appropriate books and materials for the library collection. Also, using and selecting technology in early childhood instruction is
discussed. Finally early childhood instruction methods in the context of teaching information literacy are discussed.

**Early Childhood Education**

The need for information literacy is accepted by secondary educators, and is now being embraced by elementary educators (Shore, Shue, & Lambert, 2010). Information literacy objectives can be taught at the early childhood level. With young children, inquiry-based instruction and constructivism are widely held to be the best ways to foster learning in young children. One of the primary responsibilities of the early childhood educator is to lay a foundation for early literacy (Hedges, 2000). The following section will describe early childhood methods and practices that are being used and discussed today. The early childhood ideas and philosophies highlighted in this section include the constructivist philosophy of learning, learning through play, and a discussion of how print awareness leads to early literacy.

Constructivism is a philosophy that is used throughout the K-12 spectrum, but it has particular application in early childhood education. This teaching and learning philosophy has been followed by early childhood educators with success because it is linked to the study of child development. Constructivism is a teaching and learning philosophy that is based on the idea that “learners actively create, interpret, and reorganize knowledge in individual ways” (Gordon, 2009, p. 38). Students in a constructivism classroom create their own questions and evaluate their own learning.

“In Constructivist theory, knowledge about the world does not simply exist out there, waiting to be discovered, but is rather constructed by human beings in their
interaction with the world” (Gordon, 2009, p. 39). The nature of constructivist education takes students away from single skills-driven instruction, to instruction that is deeper in nature and requires students to use higher ordered thinking skills (Manzo, 2009). Constructivism requires students to be active participants in their own educational process. It rests on a foundation of authentic instruction (Gordon, 2009). “Learning is about understanding and applying concepts, constructing meaning, and thinking about ideas; learning is not about accumulating random information, memorizing it, and then repeating it on some exam” (Gordon, 2009, p. 39). “Learning requires the learners to be active, and knowledge arises out of a shared process of inquiry, interpretation, and creation” (Gordon, 2009, p. 38).

“Early childhood professionals have worked to create learning-rich environments in which art projects, rudimentary science experiments, and extended conversations aim to build young children’s oral language and background knowledge” (Manzo, 2009, p. 11). A study of early childhood literacy conducted by the National Early Literacy Panel (Manzo, 2009) found that teaching phonemic awareness in preschool made the students better readers. The publishing of these findings led some early childhood professionals to be concerned that this study could lead teachers to use fewer constructivist methods of instruction and further narrow the instructional focus for students, relying heavily on worksheets and rote memory. Developmental research shows that students will successfully learn to read when drilled on single skills such as decoding, phonemic awareness, and fluency; but they will learn critical thinking skills and foster a sense of life-long learning through constructivist, hands-on activities. Manzo fears that the
research by the National Early Literacy Panel will pressure early childhood educators to spend less time teaching students language and conceptual knowledge.

Vocabulary, oral language, and background knowledge will become important later on in elementary school when students’ focus is on comprehension and making inferences within text. Manzo (2009) fears that students will not have these foundational skills because of an early emphasis on reading fluency and single skill-driven instruction. Educational professionals fear studies like the one conducted by the National Early Literacy Panel will encourage teachers to focus too intently on teaching single skills in isolation rather than providing their students with constructivist learning experiences that build vocabulary and background knowledge.

There is pressure to abandon the research-based early childhood principles that have been used successfully with young children, because students have so much to learn in a short amount of time. Curriculum tends to get pushed down to the lower grade levels and it creates a fear that students are falling behind. The quick answers educators are turning to are to focus instruction on skills-driven instruction rather than give students time to experience learning through constructivist methods. However, early childhood professionals have always maintained that young children learn best through play and inquiry.

Teale (1999) drew conclusions about emergent literacy from looking at current research being generated by early childhood programs. The research was anecdotal in nature, with Teale observing children between the ages of three and five interacting with books during unstructured classroom time. Teale observes that the students he observed
first engaged in reading and writing through play. Teale drew three conclusions from his observations. One is that students begin their foundation for literacy as young children. Second, young children build their own framework for understanding literacy. Third, adults are very important to the literacy process. The researcher encouraged teachers and librarians to consider emergent literacy in order to understand what students are thinking about and doing when interacting with their environment. Teale believed this will create opportunities to promote literacy.

Research supports the idea that children who are introduced to literacy at an early age have a better chance of being successful readers and learners later on in life. A study was done with very young children in public libraries in Illinois where children from birth to age three participated in a lap-sit story time (Quigg, 2005). Originally the purpose of the program was to establish a relationship with young families and to introduce an underserved population, ages birth through three, to the library and its services. The young children participated in story times, twice a month for 30 minutes, where they had opportunities to be exposed to activities meant to foster emergent literacy skills. Despite librarians reporting that many of the children appeared to not be consistently actively engaged in the activities, the research overwhelmingly supports the programming. Preschool students who participated in the library programming had the highest scores in a test of receptive language given to children entering kindergarten. The original purpose of the lap-sit programming was not to increase emergent literacy rates, but this is what Quigg reports as an outcome. This research concludes that these important findings highlight the importance of reaching out to very young children in the
library with the hopes of increasing emergent literacy skills for preschool and kindergarten students.

One strategy that encourages emergent literacy is the use of print referencing when reading out loud to students. Print referencing occurs when verbal or non-verbal cues are used to encourage a child’s attention or interaction with print. The objective is to teach students print awareness while participating in a teacher-led story time. Print awareness refers to a student’s understanding of the nature and uses of print. An example of this would be when a teacher asks a student to point to the first word on the page (Justice & Ezell, 2004). Another example of print referencing would be to ask students to pick out a short word or a long word on the page. With print referencing students learn about interacting with print through the larger context of the story, creating more of a constructivist environment than single skill methods, such as learning decoding or phonemic awareness skills.

In a study of literacy enhancement strategies for emerging literacy, Justice and Ezell (2009) found print referencing elevated the meta-linguistic focus of teacher-led story times. The researchers looked at the outcomes of teachers that had been using this method for an entire school year. They tested to see if students had a better knowledge of print awareness after participating in classroom instruction that focused on print referencing. Students from the classrooms that were taught print referencing scored higher on print concept knowledge, alphabet knowledge, and name writing. The results show that print referencing is an effective teaching method to use with preschool students.
Educators can select print-salient books and incorporate print referencing into reading interactions to make teacher led story times more meaningful (Justice & Vukelich, 2008). A print-salient book is described by the researchers as being a storybook where print is an important part of the illustrator’s design. These books make the print interesting for young children to look at because of changes in the style, color, or size within the text. The researchers also write about the importance of print referencing while reading to students. While reading, the teacher can draw student’s attention to not just the narrative story, but also the text. The teacher can track the print, point to the print within illustrations, or talk about the text with students. The four aspects of print knowledge that teachers draw students’ attention to during teacher led story times are print concepts, letters, words, and print-to-speech connections. Some examples of print concepts include knowing what direction to read, being able identify a symbol as a letter or a group of letters as a word, or knowing the parts of the book, such as the cover. A child who can make print-to-speech connections knows letters represent sounds, can orient himself to the print, and also knows that print carries meaning. Teachers might claim they draw student’s attention to print as a major aspect of their story time instruction; however, when data was collected, the actual print referencing that teachers were doing was very low, if happening at all (Justice & Ezell as cited in Justice & Vukelich, 2008). Students can build reading fluency and print awareness if their attention is directed to the print in a book, but the teacher must show students that the text is something interesting and fun to look at. The next section of this paper will discuss the role that the library can play in early literacy instruction. Selection of early childhood
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materials, technology and young children, and information literacy in early childhood will be discussed.

**Early Literacy in the School Library**

In 2006, MacDonell, a school librarian, wrote about the growing need for universal preschool to help middle-income students become ready for elementary school. In the universal preschool model, all four-year-olds will be able to attend a free public preschool. Some of these preschools are housed within preschool centers, but because it is cost efficient, many of them are being placed within elementary schools (Justice & Vukelich, 2008). Universal preschool is becoming more common in public schools and with more focus on kindergarten readiness early childhood scholars, such as Justice and Vukelich, believe that it will be a more common practice.

According to MacDonell, more elementary schools are offering preschool services. Now that the traditional K-12 public school model is being stretched to include preschool, attention can be given to what makes a successful preschool program. School librarians will consider how they can learn more about early childhood education so that they can better assist this new population. The current guidelines that library media specialists use to design their literacy instruction already had problems related to teaching the lower elementary grades (MacDonell, 2006). Now this problem is compounded because librarians will be teaching an even younger group of children. Preschool students have different needs than upper elementary students, and if school librarians can educate themselves on research-based early childhood teaching methods they will be able to create library programs that will increase academic success for young students.
The school librarian can play an active role in fostering early literacy by providing opportunities for students to learn from their environment in the library (Teale, 1999). The school librarian can influence a student’s love of reading and learning. This can be done through librarian-led storytime activities, as discussed in the last section, creation of physical spaces in the library that foster early literacy, and making reading and writing a part of children’s play.

Reading aloud to students is a time-honored research-based method for encouraging a love of literacy in children. In 2006, early childhood library resource coordinator and librarians, Arnold and Colburn, published a paper that drew connections between literacy and young children. The purpose of Arnold and Colburn’s work was to show how library instruction was needed for young children. Their research shows that reading to students is one of the most significant factors in creating a life-long love of literacy. These studies show that students need to be exposed to books well before they enter kindergarten in order to be successful. Arnold and Colburn’s study shows that children who are read to three or more time a week are nearly twice as likely as other children to show three or more skills associated with emerging literacy.

There are ways that librarians can make story times more effective, including print referencing, reading varied materials, and coming up with new and interesting ways for students to interact with and respond to the material. Students can be given opportunities to orally take part in the reading of the story and to participate in discussions about the material. Another thing that librarians can do to enhance story times is to read the same materials over and over again with young students. Students
will not only enjoy being exposed to new materials, but also enjoy hearing old favorites again (Teale, 1999).

Another way Teale believes librarians can promote emergent literacy within the library is to create literacy spaces for young children that are inviting. Literacy spaces can give children a place to relate to books in an authentic way. A literacy space is a small center where young children are given the opportunity to play with games, books, puzzles, and manipulatives that have a literacy theme. A welcoming environment for preschoolers is important. The school librarian can clearly label the library for young children and display books with characters students will recognize (Schwindt & Tegler, 2010).

The next section will focus on how knowledge of early childhood development can provide a school librarian with selection criteria when choosing age-appropriate books and materials for the library collection. Information on using technology with young children will be presented, then information on early childhood teaching methods within the context of information literacy instruction. In the third chapter, research questions posed in chapter 1 will be answered.

**Selection of Early Childhood Materials**

A school librarian is responsible for selecting books and maintaining the library’s collection. A collection that supports student achievement is one that provides resources for all students, including the early-childhood students in an elementary school. This section will present research on choosing developmentally-appropriate books for young children.
Books for young children can be more effective for teaching literacy when they are selected thoughtfully, using well-researched information about early childhood development (Dwyer & Neuman, 2008). From ages three to four, students begin to move away from simply naming and labeling objects in books and are able to focus on a more narrative plot. These preschoolers are now able to see how each page relates to the others and forms one story. This move from labeling to reading for meaning is described by Dwyer and Neuman as being an important shift in literacy awareness and requires a change in reading material.

While children are between the ages of two and three, they see each page of the book as a unit, separate from the rest of the book. When students are between the ages of three and four they can see the book as a continuous story (Dwyer & Neuman, 2008). In order to foster this developmental change, the research supports the selection of stories with a clear beginning, middle, and end. Also, children between the ages of three and four can now make predictions and inferences, and can also begin to understand a story that is not rooted in the immediate present. This can be encouraged by the reading of stories with a clear narrative and also by stories that challenge students to think about concepts that move away from the present time. An example of this would be reading a story about a birthday party and discussing with the child a birthday they might have had, or a birthday they would like to have.

Research shows that young children are drawn to familiar book characters and series and that selecting books from a familiar series can increase literacy rates. Dwyer and Neuman (2008) cited a study conducted in a preschool classroom in 2007, in which
two groups of students were given books to read. One group read books that were a part of a series and the other read books that were not. The group that read books from a series showed the greatest improvement in reading ability and reported more reading enjoyment than the group that did not read from a series of books. Dwyer and Neuman note that young children enjoy familiar characters and stories and enjoy reading books from a series because they are able to easily predict what will happen in the story.

Selecting age-appropriate non-fiction books for young children increases a child’s vocabulary and helps support young children’s natural curiosity. These non-fiction texts should present simple cause-and-effect scenarios and answer the questions that children have about the world around them. Also, exposing young children to non-fiction early will help prepare them for the type of non-fiction reading they will be expected to do later on in their elementary education. It is possible to select books from a wide range of age-appropriate genres for young children.

When books are selected carefully, using a developmental approach, young children will enjoy them more and will become fluent readers earlier in their elementary education (Zeece, 2009). Zeece also presents the idea of using books to build background knowledge. The book selector can carefully choose books that will help link the early life experience that students have had with the books they are reading in order to develop schema and build emergent literacy.

This section presented information on selecting books for early childhood students by using a developmental approach. Using this approach informs school librarians of ways to choose developmentally-appropriate books. For students to become
information literate they also need to be comfortable using the technology that surrounds them (AASL, 2007). There has been much debate about how to use technology in an age-appropriate way with young children. The next section of this paper will discuss current research on the topic of young children and the use of technology in early childhood instruction.

Technology and Young Children

Teaching students to be good users of technology is an integral component of information literacy instruction (AASL, 2007) and is a topic that is often discussed among early childhood professionals (Tracy & Young, 2007). There are many factors to considering the age appropriateness of young children using technology. In a study of the Waterford Early Reading Program conducted by Tracey and Young, high-risk kindergarteners spent time each week completing a skills-driven reading software program designed to improve reading. The study involved 265 kindergarteners who used the software for 10 months. Results indicated that students who participated in the software study performed better than students who did not on two out of three standardized tests. Despite the reported success of single-skill-driven computer programs like the Waterford Early Reading Program, some researchers doubt that focusing on single-skill-driven instruction delivered by a computer program is age-appropriate for young children. Manzo (2009) is concerned this type of instruction would have a negative effect on long-term higher-order problem-solving abilities. Manzo believes that instruction that focuses on rote memorization deprives young students of the opportunity to learn in authentic ways that increase their higher-order thinking skills. Authentic
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learning environments build oral language and background knowledge, which will be essential to students when they begin to engage in higher-order thinking skills, such as drawing conclusions, making inferences, and comparing.

Even though studies have shown that technology has positive effects on young children, little is known about the long term effects of using these new tools. The Alliance for Childhood is concerned that not enough is known about young children and technology, and until more research is done, they cannot be sure that technology usage will not interfere negatively with children’s development (Hinchliff, 2008). The American Academy of Pediatrics (AAP) knows that children will be using these technologies because of how aggressively the materials are being marketed to parents. While there is little research on technology usage with school-age children, there is even less research that addresses the effects on children under the age of five. The AAP and the Alliance for Childhood have called for educators to be careful when making technology decisions regarding young children. Technology changes so rapidly, it is difficult for researchers to obtain current information regarding young children and the use of technology.

A major aspect of a school librarian’s job is to evaluate materials for the library’s collection (Collen, 2006). Selecting age-appropriate technology in the forms of both software and hardware, requires the school librarian to use similar selection criteria as when selecting books and periodicals (Parette, Quesenberry, & Blum, 2009). An example of technology that might be selected is electronic books, or e-books. E-books are growing in popularity, and teachers and librarians might wonder about the possible
educational uses for these materials in the early childhood classroom (Moody, 2010). Moody writes about the ability of e-books to create scaffolding for individual student users. Scaffolding is a way to support students in their learning while they are first being introduced to a new skill or concept. Electronic texts, such as CD-ROM storybooks, present readers with text and illustrations that include elements meant to make the reading experience more captivating for emergent readers (Lefever-Davis & Pearman, 2005). Some of the features that make an electronic text different from a traditional storybook are audio and graphics that allow the characters to speak and brings the setting to life. Students are also able to individualize the reading experience by highlighting specific text to hear it pronounced and hear a definition. Electronic texts can also be set to read the entire story to the student, which recreates in a limited way a teacher-led story time. In a study of comprehension, second and third grade students were divided into two groups. One group was given a print storybook to read and the other group used a storybook CD-ROM. The group that read the CD-ROM story scored higher on comprehension questions and were able to retell the story with better detail.

Collen (2006) wanted to determine if school librarians could use the International Children’s Digital Library to add to their collections and to enhance group story times in the library. Collen writes that school librarians already evaluate print, audio, and video materials for students, but now will evaluate digital media with the needs of younger students in mind. In Collen’s study, a preschool was divided into two groups of 16 and each group was read the same two stories. In one group, the school librarian read the story in a traditional manner and asked the students comprehension questions at the end.
In the other group, the librarian sat with the students and read a digital book, projected onto a screen, by clicking a mouse to turn the pages. The results of the study showed that students were not distracted from the story by the technology and also the occurrence of off-task movement was less than when the students listened to the traditional print book. Collen did not make recommendations, because this study was considered to be a starting point for developing research on understanding electronic media use by very young children.

This section discussed the lack of the research on young children using technology in the school setting. The study by Tracey and Young (2007) on the Waterford Early Reading Program shows that students scored higher on standardized tests when using technology, but other education professionals fear that sufficient research has not yet been conducted on using technology appropriately with young children and that educators should exercise caution. The next section of this paper will discuss information literacy in early childhood. While a school librarian has the power to increase literacy rates and the love of learning for early childhood students, information literacy instruction also has a place in early childhood instruction.

**Information Literacy in Early Childhood**

The National Association of the Education of Young Children published a paper citing evidence that early childhood students in elementary schools were being taught in the same way that upper elementary students were being taught and that it was not age-appropriate (MacDonell, 2006). This section will describe methods for teaching information literacy in early childhood. As described by the American Association of
School Libraries (2007), students demonstrate information literacy skills when they correctly locate and evaluate information by the process of inquiry. Information literate students should be able to use the information appropriately and creatively. It is the primary job of the school librarian to teach students to become good users of information (Eisenberg, 2008). Information literate students are able to recognize when they need information; and then can effectively locate, evaluate and use the information (American Association of School Librarians, 2007). Teaching information literacy is a task for educators preparing students for the future. Students are constantly saturated with information and will be able to make better choices if they are taught to be information literate (Repman & Carlson, 2002). It is the primary job of librarians to prepare students to live in our technological and information-rich environment (Boff & Bushong, 2002).

Educators keep three things in mind when they are teaching information literacy. The information process, technology for information problem solving, and addressing the educational needs of students are basic concepts for proper instruction of information literacy instruction for all students (Eisenberg, 2008). According to Eisenberg, the information process is the internal process that students use when they discover they have an information need. The process defines how they find and use the information.

Even very young children have information needs. For example, a young child could enjoy watching a TV show about trains and desire some additional information about trains. If this child is taught very basic age-appropriate skills, she will know something about the information process. For example, she will know the school library
includes books about trains and the school librarian will be able to help her locate and read them.

Using technology for problem solving is the second concept that Eisenberg writes about in this study. Eisenberg states that technology should be something that enables students to locate resources to fulfill the information need. Young students can begin to be aware that the books in the library are organized in a system, even if they do not yet understand the system. A young child might ask the librarian to “look up trains in the computer,” and the school librarian could walk him through the process of locating the book on trains in the electronic card catalog or find an age-appropriate web site on trains for the child to enjoy.

Information literacy can be used to address the educational needs of students. For example, if students are studying transportation in their preschool classroom, they might hear a story or look at a web site relating to trains while in the library. The school librarian would teach students that information about the topic they were studying in the library is found by searching under the heading of “transportation.”

Heider (2009) refers to information literacy as the “missing link” in early childhood education. Heider’s research supports the use of information literacy instruction for young children because it lays a foundation for critical thinking and future problem-solving skills. According to the research, the teachers of young children typically do not bring their students to the library to do simple research, but children as young as three years old can begin to be taught information literacy skills.
Heider’s research focuses on teaching young children to do basic research by using the Super3 Information Problem Solving Model, which is a simpler version of the Big6 Problem Solving Model. The first step in the Super3 Model is for students to create a plan. This is where they create a list of questions, think about what resources they could use, and plan what they will need to do. The next step is to do the research. During this step they will organize their information, make something to show what they have learned, and informally cite their sources. The third step is when students review their research process and evaluate their project. In the Super3 model the steps are all done with assistance and scaffolding provided by the classroom teacher and the librarian.

Heider looks at research that was done in a Canadian preschool class in 2004. This classroom of preschool students took part in library instruction where the objective was to teach very basic information literacy skills using the Super3 Information Problem Solving Model. Students were able to read and use the text features in non-fiction books. Examples of text features are headings, charts, graphs, maps, and bolded words. They activate prior knowledge, which is an essential component of constructivist learning. They also demonstrate the ability to understand and identify internal text structures. Internal text structures refer to how the text is organized. Some examples of internal text structures are descriptions, cause and effect, compare and contrast, and sequence. Young children who took part in information literacy instruction were able to show early ability to use and learn from the text.
Conclusion

Todd (2002) states that while reading fluency is the first step, being information literate can be looked at as a bridge between learning to read and reading to learn. School librarians are seeing more preschoolers in the library, and it is their job to instruct them to become literate. If librarians are aware of early childhood instruction and early childhood development, they will be able to teach lessons and select materials that are age-appropriate for young children. It is important for students to begin their educational foundation well before they enter kindergarten in order to be a successful student in the future.

This chapter presented research on early childhood education, early literacy in the school library, selection of early childhood materials, technology and young children, and information literacy in early childhood. For school librarians with a new population to serve, it is important to collaborate with early childhood teachers and to educate themselves on early childhood principals such as constructivism, print referencing, and learning through play. The purpose of looking at the research in these areas is to show how using age-appropriate methods for early childhood students during library instruction will lay a foundation of early literacy and information literacy that will help students become successful readers and students.
CHAPTER 3:
CONCLUSIONS AND RECOMMENDATIONS

The purpose of this paper is to illuminate the ways school librarians can support their early childhood population by offering age-appropriate information literacy instruction and by selecting books using criteria developed from an understanding of child development for selection. The research questions posed in chapter one will be addressed in this chapter.

What Young Children Can Learn in the Library

School librarians can begin information literacy instruction as early as preschool. Information literacy is an essential skill students need, as it bridges the gap between learning to read and reading to learn (Todd, 2002). Information literate students are able to locate, evaluate, and use information. Even while young children are still emergent readers, librarians can teach age-appropriate research skills. The Super3 Information Problem Solving Model is a research-based research process that is developmentally appropriate for young children. Preschool students who took part in Super3 instruction were able to use and learn from text features, activate prior knowledge, and demonstrate the ability to understand and identify internal text structures (Heider, 2009).

Young children can also learn beginning literacy skills in the library. School librarians are important educational guides not only for information literacy, but also in supporting the emergent reader. School librarians can promote emergent literacy within the library by creating spaces that young children find inviting (Teale, 1999). While reading stories to students is not the only kind of instruction school librarians offer, story
times still prove to be an excellent way to teach students to read and also to love stories (Arnold & Colburn, 2006).

**Resources and Teaching Strategies**

Teaching strategies that could be used in the teaching of information literacy to young children are constructivism instruction and print referencing. Constructivism is the primary teaching philosophy used by early childhood educators. Using constructivist teaching philosophies with young children would have students creating their own questions and evaluating their own learning. This teaching philosophy requires students to take part in authentic experiences that will lead to deeper understanding.

Another research-based early childhood strategy that would be useful for school librarians is print referencing. Drawing student’s attention to the text in a book is a way to support emergent readers and is a strategy that can be utilized during librarian-led story times. Teaching students to be literate is the first step to teaching students to become information literate (Todd, 2002). After students learn to read, they can then begin to read to learn.

While the use of technology is still being questioned as an age-appropriate resource, beginning research is being conducted regarding the use of e-books with students to provide scaffolding and could prove to be a way to teach beginning literacy to young children. In the limited studies on using e-books with preschool students, researchers have found that students are not distracted by the technology, appropriate scaffolding is provided, and school librarians are able to add to their collections by using free resources like the International Children’s Digital Library. Using technology is a
component of information literacy instruction, and using e-books is a way to begin using technology with younger students.

Selection of Materials for Young Children

While school librarians are currently selecting materials for early childhood students, many school librarians do not have knowledge of early childhood development. A library’s collection should reflect the school’s population, and if young children are members of a school, the collection should have an adequate number of developmentally appropriate books. Many researchers discuss the importance of choosing books and materials using criteria developed from child development theory for selection.

Children between the ages of three and four are beginning to see the pages of a book as a continuous story, so these children can benefit from simple stories with a clear beginning, middle, and end. Books that move away from the present time and begin to challenge students to make simple predictions and inferences are now appropriate. Non-fiction books can be chosen in order to stimulate the natural curiosity of young children. These books should present simple cause-and-effect scenarios and answer the questions that children have about the world around them (Dwyer & Neuman, 2008).

In order to support emergent readers, educators can use print referencing during teacher-led story times. Print referencing is the process of drawing student’s attention to the actual text of the story during a story time. Librarians can select print-salient books that lend themselves to print referencing. A print-salient book is described as being a storybook where the print is an important aspect of the illustrator’s design. Knowledge
of child development and early childhood teaching strategies, such as print referencing, will serve as an important selection criteria.

With universal preschool becoming more common across the country, elementary librarians will have larger than ever early childhood populations. If school librarians will be serving young children, through instruction and selection of materials, it is appropriate that school librarians become educated in early childhood teaching strategies and early childhood development.
REFERENCES


