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## Finders Keepers: A Comparative Study Investigating Teaching The Florida Research Process Finds Model Through Three Different Approaches At The Elementary School Level

Karen Serrell  
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FINDERS KEEPERS: A COMPARATIVE STUDY INVESTIGATING TEACHING  
THE FLORIDA RESEARCH PROCESS FINDS MODEL THROUGH THREE  
DIFFERENT APPROACHES AT THE ELEMENTARY SCHOOL LEVEL

by

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A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Education in Curriculum and Instruction  
in the Department of Educational Studies  
in the College of Education  
at the University of Central Florida  
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## ABSTRACT

The children's taunt "Finders Keepers, Losers Weepers" gives new credence to the information search process at the elementary school level. Children keep what they find, claim it as their own, and accept information without discernment or critique.

This study examines the effectiveness of teaching information literacy skills through three different approaches. The first curricular approach uses direct instruction to teach children how to do research using the Florida Research Process FINDS Model. The second approach pairs the FINDS Model with a unit of study that is related to classroom curriculum. The third approach examines the FINDS Model in conjunction with project learning, a constructivist model based on student interest. One hundred twenty-eight third grade students attending a public elementary school in Southwest Florida during the 2008-2009 school year participated in the study.

A mixed-methods research approach was used to gather data. Quantitative data was collected with an information literacy pre and post test, and an anonymous media lessons' survey about student preferences. Qualitative data were gathered through a review of student work samples and student interviews. Statistically significant gains were found between the pre to post test scores for all three groups, however no statistically significant differences were found among groups. Although quantitative data did not reveal differences among the treatment groups, qualitative findings revealed that the group taught research skills through the connection to classroom curriculum approach performed better. Thus the findings of this study support existing research which proposes that the best practice for teaching research skills to young children is through a connection to classroom curriculum.

This dissertation is written in memory of:

Dr. Wanda Slayton, early childhood advocate, my mentor, my girlfriend.

Katharine (Kit) Serrell, Mother-in-law and children's champion-you are my anchor  
always.

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Dr. Penny Beile, you are a role model. Thank you for your tremendous support and encouragement. You embody the true spirit of a mentor, educator and a librarian. Your example of critique without criticism is invaluable. You have made this experience one that I can only hope to replicate for someone else someday.

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To my husband Ted, oh captain, my captain, this could not and would not have been possible without your tremendous support. I thank you from the bottom of my heart.

*Finders Keepers  
Losers Weepers*

We have come a long way in the sophistication of our legal process from finder's keepers, loser's weepers. Unfortunately, for many - collector and landowner alike - the lessons learned on the school playground will continue to outweigh the lessons learned since in the classroom or the courtroom.

N.Y. State Museum website retrieved July, 2008.

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## LIST OF ACRONYMS AND ABBREVIATIONS

AASL- American Association of School Libraries

AYP- Adequate Yearly Progress, criteria for schools to meet as part of No Child Left Behind legislation

CG- curriculum group- students in this group completed a project chosen by the teacher that was related to classroom content

CG ESE- curriculum group exceptional student education students

CG REG- curriculum group regular education students

CG GFT- curriculum group gifted and talented students

DI- Direct Instruction- students completed information literacy activities.

ESE- Exceptional Student Education

FINDS- Florida's Research Process Model, acronym: focus, investigate, note, develop and score

GFT- gifted and talented students

PG- project group- students completed a self-selected project about a topic

PGESE- project group exceptional student education

PGREG- project group regular education students

## CHAPTER ONE: INTRODUCTION

Information literacy and the importance of raising a society of citizens that know how to interpret, authenticate, evaluate and synthesize data is more crucial in the twenty first century than ever. With information on the World Wide Web at virtually everyone's fingertips the ability to understand what is legitimate is paramount. Information Literacy as defined by the American Association of School Libraries, AASL, and the Association for Educational Communications and Technology, AECT, is the ability to find and use and evaluate information (AASL and AECT, 1998). New standards for information literacy highlight the necessity for inquiry based learning (Appendix A). Information literacy is recognized in the state of Florida by several professional and educational organizations. The Florida Association of Media in Education, FAME, was formed in 1972. They hold an annual conference and provide professional publications and resources for media educators. The Florida Library Association is the state affiliate of the American Library Association. They hold an annual conference and provide publications and resources to their members as well. There are various Florida state universities that offer master degree programs in Media Education including the University of Central Florida, the University of South Florida and Florida State University. The University of Central Florida hosts the SUNLINK website, Florida's shared library union database. The Florida Department of Education has written standards for information literacy and media literacy. This year, 2009, the standards will be tested in a separate section on Florida's state standardized test, the Florida Comprehensive Assessment Test, FCAT. In past years the standards were included as part of the language arts section of the test.

Use of an information search process model is documented in the literature as one of the instructional methods used to teach information literacy skills (Eisenberg & Brown, 1992). The Florida Research Process Model is an information search process model. Florida uses the acronym FINDS to represent the stages of the research process; focus, investigate, note, develop, and score. The model was developed by Nancy Teger, Program Specialist for Library Media Services at the Florida Department of Education. The University of Central Florida provides resources for the FINDS Model on the SUNLINK website: [www.sunlink.ucf.edu](http://www.sunlink.ucf.edu).

The school district, where the study was conducted, provided training through staff development for educators to use the FINDS Model. In addition, the district's Media Services Department included training about the FINDS Model on their quarterly meeting agendas in the 2008-2009 school year.

The components of the FINDS Model: focus, investigate, note, develop and score (evaluate) encompass the aspects of a curricular framework for teaching the research process. This study compares three different teaching approaches to see which is most effective in teaching information literacy skills. The first approach uses direct instruction to teach the FINDS Model. Students in this group attended media lessons and completed activities that focused on information literacy skills as content. The second approach was an integrated approach. The model was taught in conjunction with a unit of study chosen by the classroom teacher. Students completed a project about a topic that was part of the classroom curriculum. The third teaching approach was constructivist. This group learned about the research process by completing a project through the exploration of a topic chosen by the students.



## Statement of Problem

At the elementary school level students are often given a subject to study and told what kind of project to complete. They are not given formal instruction on how to use the resources, evaluate them, or taught how to give credit where credit is due. The childhood saying “Finders Keepers, Losers Weepers” holds true when reading the work that students have copied out of published texts. Students acquire the technical skills to use the computer and navigate web sites without learning about the authenticity, validity and credibility of the sites they are using. In the rapidly advancing age of technology, students know primarily how to use a search engine when it comes to using the computer, and to “Google it” has become the mantra of the student’s research journey. This is shown by author Dan Gutman in his pre-teen book, *The Homework Machine* (2006), when the fictitious character of a fifth grade student named Brenton Damgatchi makes the following statement:

What does “cool” mean, anyway? Did you know that Abraham Lincoln once said “That is cool”? It’s true. I looked it up. He said it in his famous Cooper Union speech. Google it if you don’t believe me (p. 11).

The problem is that students do not understand the difference between using a search engine and an educational database. This was supported by Gibson (2002) who found that elementary students were capable of locating information on the Internet without critiquing it. Kafai and Bates (1997) looked at elementary students’ Internet searching patterns and critical thinking skills in a preliminary study called the SNAPdragon project. They found that “As with books, the children were quick to assume everything they found about their topic on the Internet was correct just because it was there” (p.109). Elementary students are not alone in this situation. In an international

study of library perceptions and usage in 2005, high school students in the United States weighed in at an 81% usage rate of search engines and an 18% experience with electronic databases (Online Computer Library Center, 2005). These results reflect the overall familiarity of United States residents of all ages; 71% of who experience accessing information from search engines and only 16% of research experience utilizing online databases. The study separated library web sites from online databases, which showed a slightly higher usage rate. Breivik (2005) emphasizes the unreliability of information found on the Internet:

According to Peter R. Young, chief of the Library Distribution Service at the Library of Congress, only 17 percent of resources are indexed by any single popular search engine, and 83 percent of the sites that are indexed contain commercial content, compared to the 6 { [SIC] } percent that are educational or scientific (22).

Expert researcher Christine Bruce reported the same problem with young researchers' inability to choose suitable educational databases (Bruce 2002). In a study of Information and Communication Technology skills conducted by Educational Testing Service, ETS, Foster (2006) reported that 87% of high school students entering college do not have the ability to critically evaluate web based information or use educational databases effectively.

In order to prepare the next generation of digital natives to navigate the information superhighway, media specialists are charged with the task of teaching information literacy skills. Use of an information search process model is one way of teaching these skills. The question is how do students best learn to do research? This study examines three different teaching approaches to see which is most effective in teaching the research process to young children.

## Purpose of Study

The purpose of this study was to determine if project learning is an effective approach for teaching the research process to young children. The FINDS model was used as the curricular framework for this study.

A comparative investigation of the three approaches contributes to the field of study according to Gordon (1999) who states “Most of what educators know about teaching research skills has emerged from practice and there are no formal research studies that tell us one instructional approach is better than another.” Additionally, in an international review of studies relating to information literacy, Neelamegan asserts, “A significant gap in the research is the lack of specific evidence linking the role of school librarians to student acquisition of information literacy skills” (Neelamegan 2007). The missing piece in library research involving project work has been the lack of understanding about the importance of using children’s interests. If the process of obtaining information literacy skills to have for a lifetime is the goal, students may be able to acquire these skills by focusing on their own interests. Students may be more likely to retain the research steps if they are researching something of personal interest to them. This study will investigate whether content based learning is in fact the best practice for teaching information literacy skills, or if there is another method that is as effective or superior. The study will answer the following research questions: Is there a difference between teaching students’ information literacy skills using an information process model in isolation and teaching students’ information literacy skills using an information search process model in conjunction with a project approach? Does project work chosen by children foster greater skills than project work chosen by teachers?

## Significance of the Study

The study contributes to the pedagogy of information skills by determining whether a constructivist approach used in conjunction with an information search process is more effective than teaching media skills in isolation or in connection with a unit of curriculum. The findings from this study will contribute to the field of media education by adding a new component to what is already considered best practice for teaching research. This study supports the existing literature that asserts that the best way to teach media skills is through a connection to content. In addition, recent attention to the importance of collaboration has become the focus of current research. Although teacher/media specialist collaboration was not the focus of the Finders Keepers study, it is addressed in the results and recommendations chapter. The study's educational objective is to provide students with more than a "finder's keepers" mentality when it comes to research. The goal is to create the foundation for students to gain lifelong proficiency in information literacy.

## Limitations

Because the overarching goal of information literacy is the ability to transfer skills to multiple learning situations, this study is limited in measure by a beginning and an end. A longitudinal study of whether the students retained the learned skills and possessed the ability to transfer them to other settings would give a broader picture of the success of the study. The information literacy test used to collect data was not validated at the time of

the study but has been widely used throughout the school district. Other limitations include data collection from one elementary school as opposed to multiple sites does not allow for results to be generalized to populations that do not resemble the demographics of the students in the study.

### Summary

Information literacy skills are essential to prepare 21<sup>st</sup> Century learners for the future. The present is filled with multiple opportunities for students to explore new technologies and domains that arrive and evolve in an instant with the click of a mouse. Technology that took several generations to develop for educators now changes exponentially for students from one grade to the next.

## CHAPTER TWO: LITERATURE REVIEW

In preparation for this study the following areas of the literature were examined: the background of information literacy, constructivism as a theoretical base, project based learning, studies comparing constructivist and traditional approaches, information search process models and research studies about information literacy skills acquisition in connection to classroom content. The review of the literature encompasses these areas.

The concept of information literacy first emerged in 1974 when information industry president Paul Zurkowski challenged the National Commission on Library and Information Sciences to teach skills that would bring about an information literate society. This began a practice in education that has produced research studies, several models and publications, and the suggestion that it become its own discipline (Webber & Johnston 2000). The educational movement toward information literacy gained momentum in 1983 with the publication of “A Nation at Risk.”

The importance of school libraries was addressed in a White House conference on school libraries held in 2002 convened by First Lady Laura Bush. Expert in the field Keith Curry Lance presented the results from the Ohio Study which highlighted the impact of the school libraries on achievement. In an interview with Lance by Callsion (2005), Editor of *School Library Media Research*, Lance discussed previous studies that highlighted the impact of information literacy instruction (Gaver, 1963, Krashen, 2004). Information literacy is not only recognized locally and nationally but internationally as well. An initiative to address information literacy on an international level took place at

UNESCO, a worldwide conference. In an international review of the literature Virkus (2003) reports:

UNESCO has also entered into the information literacy arena: UNESCO, the US National Commission on Libraries and Information Science, and the National Forum on Information Literacy decided to arrange a 'Meeting of Experts' to be held in early 2002 in Prague, for undertaking and planning a larger and more ambitious worldwide 'International Leadership Conference on Information Literacy' (p.71).

Christine Bruce called for information literacy programs to provide resources, curriculum, integrated and engaging learning activities and opportunities for closure and evaluation. She identified three essential components that are necessary to the process of becoming proficient in information skills: cognition, metacognition and application (Bruce 2002). In a white paper presented to the United States National Commission on Libraries and Information Science, UNESCO in 2002, one of the examples of best practice is to “Bring learner centered experiential and reflective approaches to the information literacy education process” (p.6). Moore (2002) presented a White Paper at UNESCO that analyzed information literacy practices worldwide. Information literacy as a broad and sometimes multi-defined term can range from what she refers to as resource-based learning, to technological skills, to problem solving or inquiry oriented processes. Moore also discussed the lack of information literacy skills evidenced in educators that encompassed voids in all three of the aforementioned areas. In addition, the perceptions of the role that the teacher-librarian or media specialist has of student achievement are limited to the experience teachers had with their own school library. Information literacy has evolved into a discipline that has become recognized as relevant amidst multiple literacies that exist today.

## Constructivist Learning as a Theoretical Base

The key piece of literature that has arisen from the information literacy movement in the last thirty years is the book *Information Power* (AASL & AECT, 1998). This book published by the American Association of School Libraries and the Association for Educational Communications and Technology details the necessity of including information literacy in the school curriculum. Constructivism according to *Information Power*, “places the learner at the center of a dynamic learning process; the learner constructs knowledge rather than passively absorbing it” (p. 173). *Information Power* also calls for an integrated approach for learning research skills. Dickenson (2006) makes the connection between information literacy skills and project learning. She correlates the American Association of School Libraries Information Literacy Standards with John Dewey’s theories about cognitive development and asserts that “John Dewey’s writings can be a theoretical base for the study of information skills.” In Dewey’s book *Experience and Education* (1938) he contrasts the traditional school with the progressive school movement. The portrait of the learning process as a dynamic exchange between the student and the instructor as opposed to the student being the passive recipient of knowledge is evident in his words. Dewey emphasizes the necessity of the students involvement in constructing the objectives for their learning (p.67).

In a longitudinal study conducted by Information Search Process Model founder Carol Kuhlthau, constructivism is identified as one of the enablers for implementing a



successful process-oriented approach to learning information literacy skills (Kuhlthau 1993). Kuhlthau's study is comprised of questionnaires and interviews that were looked at over a period of five years. Kuhlthau chose one program that responded favorably to her original survey and pursued that program. The feedback came from the faculty not directly from the students. The tenets of this study align closely with the philosophical underpinnings of this study. There are several elements worth replicating such as the use of a process model, the end result as process not project, and allowing students to choose a topic of interest. In a qualitative study by McGregor (1995) the cognitive processes that students used during a product-oriented assignment was investigated. She found that students who focused on the process along with the product had a mental model that demonstrated constructivist thinking. McGregor also found that the teacher-librarian's interaction with students' individual learning processes held more value than homogenized group lectures. In a qualitative study by Brush and Saye (2000), student-centered learning was the focus of the research. Using a computerized program for research, the students directed their learning. Teacher interviews contributed to the data along with researcher observation and products created by the students. Some of the recommendations from this study include modeling the scaffolding that was available for students to use their guide books to search for data, having more structure for the students and more support and resources for the teachers. Student-centered learning was found to be an effective approach for student research. In 1997 Christine Bruce developed a model for information literacy called the seven faces of information literacy; one of these is knowledge construction (Bruce 2002). Bruce identified the constructivist approach as one of three strategies to teach information literacy (Webber & Johnston, 2000). Bruce

created a table which described the application of the knowledge construction conception as “building up a personal knowledge base in a new area of interest” (Webber & Johnston, 2000).

Constructivism lends itself to learning approaches such as those mentioned above along with inquiry based learning and problem solving approaches. Andrew (2007) defines the constructivist instructor as one who “uses teaching methods that help students develop, reflect on, evaluate and modify their own internal conceptual frameworks.”

### Comparing Constructivist Teaching and Traditional Instruction

Ross Todd teamed up with Information Search Process Model founder Carol Kuhlthau as the principal researchers for the Ohio Educational Library Media Association, OELMA and conducted a study involving students in 39 Ohio schools (Todd & Kuhlthau, 2004). The study explored students’ perceptions of “helps” in the school library through an Internet- based survey. They collected qualitative data with extended anecdotes from the students’ responses to the survey. The study supported the students’ perception that library instruction taught in isolation was of little value. The researchers called for inquiry- based library instruction to teach information literacy skills. Alsup (2005) compared a constructivist approach with traditional instruction with pre-service mathematics teachers. His study found that using constructivist instruction was effective in reducing students’ math anxiety and increasing students’ self efficacy toward teaching mathematics. Math anxiety and information overload are two phenomena that students face in learning new concepts. Alsup’s study did not produce strong correlations between the teaching styles and the outcome, however the results of

his study demonstrated significance for educators to take note of using constructivism to improve the affective aspects of the learning process.

Wu and Tsai (2005) did a quantitative study of elementary school students in Taiwan. In their study they had a constructivist group and a traditional instruction group along with high and low achieving groups of students. They conducted a curriculum connected biology unit using both teaching approaches. They found significant increases in cognitive structures that were developed by students in the constructivist group. An integrated, higher-ordered understanding of the research process was found to be necessary to transform their thinking into information literate students. The findings of Wu and Tsai for elementary school students add significance to the choice of constructivism as an instructional method used for teaching information literacy skills.

A study comparing the two teaching approaches with elementary school students was conducted by Chung (2004). She used a constructivist and traditional approach to teach multiplication to third grade students. Her findings, while not statistically significant, adjoin to the conversation that constructivist teaching for elementary school students is an approach worth investigating.

One of the founders of the Stripling/Pitts information search model, Judy Pitts wrote an article about constructivism. Pitts gave two different scenarios of media skill-based lessons: one was teacher directed and the other was student-led. The element of cooperative learning was incorporated as well. Pitts makes the case for constructivist learning in the library as an exemplar of best practices (Pitts 1992).

## Information Literacy and Connection to Classroom Content

Renowned researcher Ross J. Todd (1995) upon finding a lack of tests to assess information literacy skills developed a test to assess student's knowledge of six areas of a search process. Todd's study compared teaching information skills in isolation with teaching them using a content based integrated approach. He used a 2x2 model, two control groups and two treatment groups of 20 students. A reason ability test was applied to equalize all groups. In his study he used several measures including academic ability, content knowledge, attitudinal studies and an information literacy posttest. Using a factorial analysis of variance Todd found a significant difference in the two teaching methods, with the treatment group outperforming the control group at the 95% confidence level. His concluding remarks support the urgency of replicating this study. Todd's study found some differences among academic ability and results which need further investigation. His study supports the theory that information literacy skills are best learned in context and not in isolation. Using a survey of high school students' information literacy skills Scott and O'Sullivan (2005) concluded that information literacy instruction needed to be integrated into the curriculum, not taught in isolation.

## Project Approach

Constructivism as a learning theory has undergirded several movements in education such as the early childhood High Scope model and inquiry based learning. A more recent pedagogy integrating a project approach that has gained international attention is the Reggio Emilia approach. Named for the small town in Reggio Emilia, Italy where it originated, this approach involves planning long-term comprehensive

projects that are child initiated (Hewett, 2001). Children work with clay, wood, and other natural materials to express their interests and abilities. Other successful components of the Reggio Emilia approach include an emphasis on family involvement. Loris Malaguzzi is the philosopher behind this approach. The emergent aspect of the children's learning can be seen in project learning and is growing in popularity and credibility. The National Association for the Education of Young Children, NAEYC, has taken a supportive stance toward this approach and promotes its possibilities through publications and workshops (Katz 1990). The town of Reggio Emilia founded a program of learning for young children that has been adapted by other cultures as the project approach (Gandini, 1993). This study will focus on only one aspect of the Reggio Emilia approach, that of project learning.

Katz (2003) links the project approach to early literacy. Children discover meaningful opportunities to connect print with the written word. Through the use of journals, word walls, webbing, and drawings, children express their ideas in ways that are important to them. Progress is documented through written observations, photographs, and displays of children's work.

In a study conducted by Harada (2002) the element of student choice was considered. The school library media specialist emphasized the importance of selecting a topical focus that "called to them." The focus of the study was on the process of using journal writing in teaching the information search process. Data triangulation was used and journal entries were coded to look for evidence of the students' understanding of the research process. In this field study the researcher gained tremendous insight into the process that the students experienced through reading their journal entries. The media

specialist responded to their entries using encouragement and questioning feedback. Interviews were used with the staff, not the students. The children were able to choose their topics, however a general topic was given. They also had to present their information in a pre-determined format. Most of the resources were made available to them. Students used the Internet. In the second unit students gained deeper levels of understanding of the process, however it creates the question as to whether the students learned more because it was reinforced for a second time. A control group was not specified, however the researcher noted that she was teaching research skills to another group of students and not using journals.

Kuhlthau (1989) did a series of five studies using her information search process model. She used an approach which she called the process approach, which contains the facets of project learning. Students used an inquiry approach, chose their topic and used a research process model. Kuhlthau found this to be an effective model for teaching the research process.

The Finders Keepers study uses elements of the project approach, student choice, student interest and creative representation of learning student interest as an approach to teaching information literacy skills.

### Information Search Process Models

Carol Kuhlthau (1989) developed the Information Search Process Model, ISP. This model was the first of many to break down information literacy into competencies with step- by- step actions that lead to learning outcomes.

Characteristics of her model include initiating the task, selecting the topic,

exploring, formulating focus, collecting information and beginning to present the information. Other comparable models are the Eisenberg-Berkowitz Information Problem Solving Model, marketed as The Big6<sup>tm</sup>, the Pitts/Stripling research process and the Irving Information Skills Model (Eisenberg & Brown,1992). Eisenberg's (2008) Big6<sup>tm</sup> Information Problem Solving Model includes six stages which include task definition, information seeking strategies, location and access, information use, synthesis and evaluation. In a case study conducted by Wolf (2003) the model was studied as a metacognitive scaffold. Wolf studied eighteen students over a twelve week period of time. She collaborated with the classroom teacher and used journals and student work samples to gather her data. Her findings support the use of an information search model in the acquisition of information literacy skills.

Stripling (1995) expands on research conducted by Judy Pitts to create the Thoughtful Learning Cycle. This mental model combines the information search process model with inquiry as a component. Eisenberg (2008) compares the Big 6 Model to contemporary designs. The model to be used for this study is the FINDS model. The FINDS Model is the Florida Research Process Model for students in elementary, middle and high school. Brochures on the SUNLINK website include the Diggity Dog research organizer for elementary school students (Appendix G) and the curious cat research organizer for middle and high school students.

## Summary

The review of the literature highlights the importance of teaching information literacy skills, the different teaching approaches used to impart this knowledge and the use of an information search process model as a tool to learn the research process. Existing research suggests that the best practice for teaching information literacy skills is through the use of an information search process model in connection with classroom curriculum. The literature also supports a student-centered constructivist approach as superior to a traditional instructional method of teaching. This study uses the constructivist learning theory to compare the project approach with a traditional instructional approach using an information search process model, and examines project learning in conjunction with classroom curriculum to determine which instructional approach is most effective in teaching research skills to third grade students.



## CHAPTER THREE: METHODOLOGY

The methodology chapter outlines the study design, sample, data collection, procedures and data analysis. Both quantitative and qualitative data are included in the study. The chapter also describes in detail the media lessons used during the study. The project, curriculum and direct instruction group presentations are discussed.

### Design

Nine third grade classes participated in the study. Of the third grade classes, two classrooms consisted of exceptional student education students as the main population and two of the classes had full-time gifted students. Of the remaining five classes the students represented a general education population. All students were taught information literacy skills using the Florida Research Process Model, FINDS. Classes were placed into three groups: a direct instructions group, a curriculum connection group and a project group. Each group contained three classes. The direct instruction group consisted of three regular education classes. Students in this group came to the media center and completed activities to learn the research process (Appendix E). Both the project and curriculum groups consisted of a gifted class, a regular education class and an exceptional student education class. Both of these groups had the students complete a project in conjunction with the media activities. The curriculum group projects were chosen by the classroom teachers and were integrated with a third grade unit of study. The project groups' topics were chosen by the students.

After sending home the approved letter for human subjects' research from the University of Central Florida's Institutional Review Board, IRB each class took an information literacy pre test. Parental permission and student assent were obtained prior to engaging in the study (Appendices B and C).

Each class visited the media center on a nine-day rotation starting in January, 2009 for a 45 minute period of instructional time. Students attended a total of five lessons over a sixteen week period of time. Students were given an information literacy test at the end of the study using the Achievement Series. In addition two students from each class were interviewed by the researcher. After media lessons ended, and students had completed the post test each class came to the media center to complete an anonymous electronic media lessons survey. Student interviews were conducted at that time. Work samples from each group were collected and evaluated by a committee using an information literacy rubric.

### Sampling

The elementary school that participated in the study is one of 48 elementary schools in its district in Southwest Florida. The school is over 45 years old. The school serves a diverse population of students and is currently rated as number five of the top ten schools in the county. It is a Title 1 school, a Glasser Quality School in the country, a Sterling demonstration school and has made Adequate Yearly Progress, AYP, for five years in a row under the No Child Left Behind, NCLB, legislation. The school has maintained the school grade of A for the past six years. During the 2008-2009 school year the school was awarded the Governor's Sterling Award, making it a role model

school for the state of Florida. In the 2008/2009 school year the school served 885 students in grades pre-kindergarten through fifth (Bryant, 2009). The school has a full-time gifted program for students in second through fifth grade and a part-time gifted program for students in kindergarten and first grade. Two of the gifted programs are multi-age classrooms. Other practices include looping which allows teachers to move up with their students to the next grade level. The school provides services for students with varying exceptionalities, houses a speech and language classroom for three-year-olds and has two Head Start classrooms.

All 139 third grade students participated in Media Lessons, pre and post testing and learning the components of the FINDS Model. Only students with a signed Institutional Review Board informed consent letter (Appendix M) had their test scores included in the results. There was also some mobility of students during the school year. 128 students were present to complete the pre and post test. The direct instruction group served as the control group for the study. This group had three classes that were considered regular education. The other two groups each had a regular education class, an exceptional student education class, and a gifted class. Groups were chosen purposively after being divided into each of the above criteria, gifted, ESE and regular education by considering the following factors: teacher experience, teacher cooperation and the specials rotation. The classes would be attending media lessons on the day they did not have a scheduled special (art, music, science or physical education) on a nine-day rotation. The groups were selected so that the researcher could see all three classes from the same group consecutively. One class had their media lessons during the second grade specials rotation in the afternoon. They were part of a combined second and third grade

gifted program. Only third grade students were part of this special, the second grade class came to the media center on a different day. For all the other classes the media lessons took place before their scheduled special time. This allowed time for the students to remain in the media center after media lessons were completed to work on their topics. The classroom teachers had the option of remaining with the classes for media lessons. Whereas most of the teachers chose to use this time as a planning period, they did choose to remain in the media center with the students during the research time following the media lessons.

## Data Collection

### *Information Literacy Test*

Participating students were given an information literacy pre-test at the beginning of the study (Appendix F). The test was developed by the school district's Media Services department, authored by Sandi Agle, Media Services Coordinator and refined during the 2008 summer Media Specialist Cadre. Some of the test questions were taken from the Oregon School Library Information System (June 2006). The test was administered through a district wide testing system called the Achievement Series [www.achievementseries.com](http://www.achievementseries.com) (Appendix J). This is available to educators in the county to collect data on student achievement using either computerized testing or a paper version of the test. Students used the Achievement Series to take the information literacy post test at the end of the study.

### *Work Samples*

Classes that completed projects presented their work to each other, their teacher and the researcher both in the media center and in the classroom. During this time other classes from their group observed the project presentations. This was not part of the original design but evolved into an interesting and beneficial aspect of the study. Teachers that participated in the observations were also part of an evaluation committee that met at the end of the study. During this time the researcher and the participating teachers used a rubric to score the selected work samples. (Appendix L). Students were also encouraged by the teachers to use the scoring section of the FINDS Model to self-evaluate their work (Appendix G). Digital photography was used to document project work along with student produced artifacts. A post-test was administered at the culmination of the project work/lessons.

The direct instruction group did not complete a project. They attended media lessons and completed individual and group activities to learn the research process. The direct instruction group turned in their research folders for evaluation at the end of the study. A three item scale was used to score the folders. Students were evaluated for completion of activities, working cooperatively and accuracy of content. Activities were similar for all three groups, with some lessons incorporating resources related to student research.

### *Student Interviews*

In addition to the pre and post tests and work samples, two students from each class were interviewed by the researcher. The purpose of the interviews was to gain a greater picture of the students understanding of the research process. After receiving a signed informed consent letter for the interviews (Appendix C) two students from each class were chosen to do a one-on-one interview with the researcher. Students were selected for interviews according to their level of engagement during the study. The researcher kept a log noting after each session which student was the most and least engaged during the lessons. Using the log, observation and teacher input students were selected and given the letters to take home. Two students from each class, the most and least engaged students, were chosen for interviews. Child assent was also secured prior to sending home the letter. (Appendix N). The researcher used the FINDS Model as a framework to ask questions (Appendix O).

The FINDS model also served as a guide for coding student answers. Components of the model such as focus, investigate, note, develop and score were used to identify evidence of the research process. The interviews took place in the media center after the completion of media lessons. The questions were designed to view a more in- depth picture of the students' understanding of the research process. The interviews provided students with an opportunity to reflect on their work, state what they would do differently next time and to share any other information about the experience with the researcher. Recurrent themes were sought through questioning.

Six students from each group were interviewed for a total of 18 students. In the interest of protecting student anonymity all quotes used throughout the paper have the acronym for the group and class, not the student's initials. An example of this would be a quote followed by the acronym PGESE which would represent an exceptional education student from the project group. This is true for quoting teachers as well. Questions were asked about how the topic was chosen, whether or not they would know how to do another research project, if they would do anything differently next time and how they would evaluate information on the Internet.

### *Media Lessons Survey*

As part of the data collection students completed a handheld electronic survey using SENTEO™ software. This provided the researcher with affective feedback about the student preferences. Answers were anonymous and only the name of each classroom teacher was saved so the data could be placed into groups and tabulated. Because the students were assured that their answers would only be identified as a class, and not as individuals, students were able to express their opinions in a truthful manner. Students practiced making choices during an introductory activity by playing the Would You Rather™ game. The game provides two absurd choices and the player decides which of the choices they would prefer. The survey was given to all nine classes; however students that were absent or that did not participate in the study did not take the survey. A total of 119 students participated in the survey (Figure 6). Students were given choices about their preferences for using a book versus a computer, an educational database versus an Internet search engine, choosing their own topic versus having their teacher choose the

topic, and how they would prefer to present their topic. Questions were presented using a PowerPoint presentation and SENTEO™ software was used with hand held units for the students to electronically record their answers. This software was familiar to the students in third grade as; they had used it on several occasions in the school science lab during their science special.

### Procedures

This section details the media lessons that the students participated in during the study. The researcher invited each class of students to participate in the study by using a child assent script (Appendix D). All students agreed to take part in the study. The University of Central Florida informed consent letter for human subject research was sent home in the weekly family communication envelope. The letter requested permission to use the student's pre and post test scores for the data collection to be reported anonymously. All 139 students at the school that were enrolled in the third grade during the 2008-2009 school year received media lessons. Students that began school after the study began were included in lessons but not in the study. A total of 128 students completed the study. Prior to the lessons, students visited the school's computer lab to take the information literacy pre-test. This required logging on to the Achievement Series website. The icon for the Achievement Series was located on the desktop of all student computers school wide, so teachers had a choice of visiting the computer lab, administering the test in their classroom, or bringing students to the media center to take the test. The website login required a site identification, test identification and student identification. When using the computer lab or media center for testing this information



was entered in advance, except for the student identification numbers, which were entered by the student, teacher or media specialist as needed.

All third grade students visited the media center for media lessons. During this time, students participated in activities designed to teach information literacy skills. Six of the nine classrooms engaged in project work. Three of the classrooms were part of the curriculum connection group and created a project based on a unit of study chosen by the classroom teacher. Three of the classrooms were part of the project group and created a project about a subject that the students chose. Students were permitted to work on projects individually or in small groups. During the media lessons students were given activities to work on in groups of three or four. Some of the activities were done individually and some were done as a group. All students were given a research folder with the FINDS Model inside the cover. For example, students completing an encyclopedia lesson would use a worksheet with content to find, and choose an encyclopedia that started with the letter of their last names. However if a student was researching a certain topic, he or she could choose an encyclopedia that had information about the topic. During the lesson about how to use an educational database, students involved in project work searched for information about their topics. Appendix I contains examples of the curriculum group ESE class state report activities that were designed specifically to complement the research the students were doing.

Each class scheduled a time to take the media lessons survey. The survey took about ten minutes with half of the time spent doing an ice-breaker activity by playing the Would You Rather™ game. Following the survey, two students from each class were interviewed in the media center.

## Data Analysis

The school district uses the Achievement Series, a computerized testing service which provided the data from the information literacy pre and post tests. Big6<sup>™</sup> developer Michael Eisenberg calls for researchers to be specific about their approaches and clearly state what works (Eisenberg & Brown, 1992). The following tools were used to determine if the project approach is an effective pedagogy for teaching information literacy skills: information literacy pre and post test data, student interviews, documented student work samples with an information search process rubric, research notes and media lesson surveys. A general linear regression was conducted, along with ANOVA and partial eta square analyses. The statistical software PASW 18.0 was used to administer the measures. Interview questions were analyzed for themes and evidence of knowledge of the FINDS Model.

Student work samples were evaluated by the researcher and three of the participating teachers using an information literacy rubric created by the researcher (Appendix L). A committee of third grade teachers along with the researcher met to evaluate student work samples. Teachers represented each of the three groups (project, curriculum and direct instruction) along with all three of the educational levels of students. Two of the teachers had observed other classrooms during the student presentations. The FINDS/FIVES rubric was used by the committee to evaluate student projects (Appendix O). Work samples from both the project and curriculum groups were rated using a 25 point rubric. 30 projects were evaluated using the FINDS/FIVES rubric. Samples included project boards, shoebox presentations, PowerPoint presentations and photographs of folder presentations, along with the state report booklets.

The direct instruction group maintained research folders and submitted them to the committee for evaluation. The folders contained worksheets from the activities they had completed during media lessons. A rating scale was used to evaluate the folders. Folders received a one, three or five for task completion, accuracy and cooperative learning. All folders from the direct instruction class were evaluated.

Survey data was collected anonymously and reported in the findings.

### *Lesson 1 Do We Dewey?*

Media lessons began in January, 2009 with the students having just returned from their winter break. The first lesson focused on familiarizing students with the different kinds of materials in the media center. The lesson was designed to introduce them to vocabulary words that they would need to know for their research. The educational objective: “We will know and understand how to use the catalog to find materials/resources in the media center” was introduced by the media specialist along with an overview of the vocabulary words that would be learned (Appendix E). This lesson was the same for all three groups of students. Components of the lesson included reading, lecture, group participation, movement activity, an interactive whiteboard activity and a scavenger hunt. Students began by reading a comic strip about the Dewey Decimal System. After discussion they were shown a PowerPoint presentation about the Dewey Decimal System. The PowerPoint presentation was available from the District of Media Services website. This site which is available to employees of the school district contains a section on lesson plans that has resources available for instructional purposes.

The site is maintained by Media Services Coordinator, Sandi Agle, who posts lesson plans and other resources submitted by local Media Specialists.

Students used posters and nonfiction books at their tables to talk about titles and call numbers of books in the Dewey subject areas that were at their table (two to three subject areas per table). Students then were taught about how fiction books are categorized. An activity called “you are the author” allowed for some movement and reinforcement of this concept. Students were asked to go find a fictitious book that had the same call number as their last name. Next students were taught how to search for books in the media center. The online public access catalog used by Lee County schools is the Destiny Library Manger from Follett software [www.follettsoftware.com](http://www.follettsoftware.com). Students took turns finding different parts of the query using the SMART Board™ interactive whiteboard, SMART Technologies, [www.smarttech.com](http://www.smarttech.com) to circle the call number, number of books available and reading level. Students were shown how to use the different searches, title, keyword, subject, and how to filter their search to include reading levels and Accelerated Reader points.

The school district uses the Renaissance Learning Accelerated Reader program to enhance student achievement [www.renlearn.com](http://www.renlearn.com). The final activity, the Dewey scavenger hunt, had students working in groups of three to locate various sections of the media center. Using the letters of the students’ last name (to emphasize the author lesson) each student was assigned a cooperative group role. One student acted as the keyboarder. His or her job was to look up the materials using media search, the feature in Destiny used to locate resources. One student was the looker, whose job was to find the materials that the group was searching for on the shelves. One student was the recorder and held

the clipboard and marker. His or her job was to write down the call numbers of the located materials. This activity reinforced the Dewey lesson by having students use the computer catalog to find the resources, search the shelves to locate the books and write down the call number of the materials.

The class was brought together at the end to review the vocabulary, restate the objective and to evaluate the lesson using the Sterling quality tool of plus/deltas. This component provided both the researcher and the students with an opportunity to see what went well, listed on one side of a chart as a plus, and what needed to change to improve the process for next time, listed in the second column as a delta. One example was that students thought that they were too noisy during the scavenger hunt. Whereas they viewed this as a delta (something to change), the researcher viewed this as a plus, demonstrating student enthusiasm and engagement in the activity. One valuable delta that was implemented was that a group that chose to work as a pair during the scavenger hunt found that it was “too much work for two people.” Using the Sterling tool of evaluation was helpful in improving the lesson for the next class, and in reviewing needed changes upon meeting with their class the next time.

### *Lesson 2 FINDS*

The second lesson began with the students assembling their research folders. The Florida Research Process Model FINDS, had been photocopied so that the brochure consisted of two 8 1/2 by 11 handouts that the students could glue inside a file folder. The sections and subsections of the model were discussed, focus, investigate, note, develop, score. Students discussed examples of general and specific topics such as space being a

broad topic and the moon being a specific topic. The difference between a search engine and an educational database was discussed. The criteria for using an Internet search engine for research were taught using the image of a locomotive engine that goes around the world during a query. To illustrate an educational database, the analogy of the mother ship as a safe place that holds the information inside it was used. Criteria included assuring the site is educational, that no personal information is given, and that the site is provided by an educational organization versus a business. Students were shown how to access educational databases through EBSCOhost the service provided by the school district, [www.esbscohost.com](http://www.esbscohost.com). Students were also given stickers with the website, username and password for home access. At school they do not need a username and password to use EBSCO. Age-appropriate databases such as KidsSearch, Searchasaurus and the Student Research Center were shown. Students then had time to work at the computers to practice using EBSCO. Index cards were provided at the workstations with words to look up using the encyclopedia and dictionary sections of the databases. Students were also given blank index cards to take notes if they wanted to use this time to look up a topic. The session ended with a review of the FINDS model and plus/deltas to evaluate the lesson.

### *Lesson 3 Finders Keepers*

Lesson three began in February. The children's book *When Marion Copied* by Brooke Berg (2006) was read aloud. Berg, a Media Specialist, wrote this book to teach students about the topic of plagiarism. Many students were familiar with the main character, Marion the hedgehog, as another of Berg's books *What Happened to Marion's*

*Book*, had been read to them as part of their media specials rotation when they were in second grade. The story introduces students to the concept of plagiarism in an age-appropriate, non-threatening way. The teacher's guide included sample activities for students to practice citing sources in different formats including books, online databases and Internet web sites. Students were given a handout of examples and they were given time to complete the activities.

#### *Lesson 4 Fun with Reference Books*

The fourth lesson introduced the students to the various types of reference materials. As students entered the media center they sat at tables that had activities for them to complete in a small group rotation. During these activities the students used the encyclopedia, atlas, almanac and thesaurus. A few of the groups doing project work incorporated their topics into the lessons. With some of the curriculum connection groups the lessons were prepared in advance so the students could work with the resource materials and research their topic. During the encyclopedia activity one of the students from the direct instruction group commented "This is getting kind of easy. Cause we already learned the call numbers and stuff. This is easy, and this is fourth grade stuff" (DIREG 2/11/09).

#### *Lesson 5 Resources*

The final lesson was designed to help students learn how to look more carefully at the resources to prepare them for the upcoming state standardized test the Florida Comprehensive Assessment Test. The activities for lesson five were set up in the same

format as the previous lesson. Students rotated among the tables, working individually or in groups. The activities included a glossary activity, captions, vocabulary and a timeline activity using the almanac for examples. The previous almanac activity had included a timeline as well. Non-fiction books from the media center were used for all of the other activities. The glossary activity included having to alphabetize words to make a glossary. During the captions activity students identified captions in non-fiction text and then drew a picture and created their own caption for it. In the vocabulary activity students identified the various ways the author identified words to know. These activities came from the teaching resource *Unwrapping a Book* (Groeneweg, 2006).

### Project Group Presentations

The project presentations took place either in the classroom or media center. The media specialist observed presentations for five out of the six classes that completed projects. One class did not have the students present their work; instead they made booklets that were submitted to the evaluation committee. One of the aspects of the presentations that emerged during the study was to have classes observe each other during the presentations. This component, which was not part of the original design, was a valuable and worthwhile addition to the study. Students were able to strengthen their own presentations from observing each other. During one of the project group's presentations the students evaluated each other using the acronym FIVES as a rubric to have students look for facts, introduction, visuals, examples of own words, and sources. Each group of students closed their eyes while their classmates rated them by holding up their fingers from zero to five. Each group then gave themselves a rating. This helped



them practice the scoring aspect of the FINDS Model. Students completed a variety of presentation methods including display boards, PowerPoint presentations, dioramas, file folder presentations and models. The following sections describe the presentations divided into two groups, project groups and curriculum connected groups. A discussion of the direct instruction group follows.

### *Gifted Class Project Presentations*

The first class that was ready to present in this group was the gifted class. They had been given the option of working individually or as a group and the majority of them chose to work in pairs. Most of the students chose to do PowerPoint presentations and a few did display boards or poster presentations. Some examples of the topics which they had chosen, included dogs, sharks, kangaroos, ocelots, tropical fish, kangaroos, and volcanoes. The volcano group showed a PowerPoint presentation and then took the classes outside to observe a model volcano erupt. One student did a presentation on pens.

The FIVES evaluation method was used by the students during this time. Using a Facilitative Leadership<sup>tm</sup> technique, classmates held up zero to five fingers to score the presentations. Teacher and researcher observation concurred that the student evaluation process focused more on personalities than the criteria presented to the students. In most cases the student groups evaluated themselves accurately. The class appeared to be more interested in working together than in the actual topics that were chosen. The project group exceptional education class observed them presenting their projects. It was agreed upon by the teacher and researcher to have the gifted students do another project, working individually, to see if they could choose something of interest to them. This

class was the class that was part of the media center specials rotation, so they would be continuing to come to the media center for the rest of the school year. In addition, they were invited to observe the presentations of another project group so they could see student interests in action.

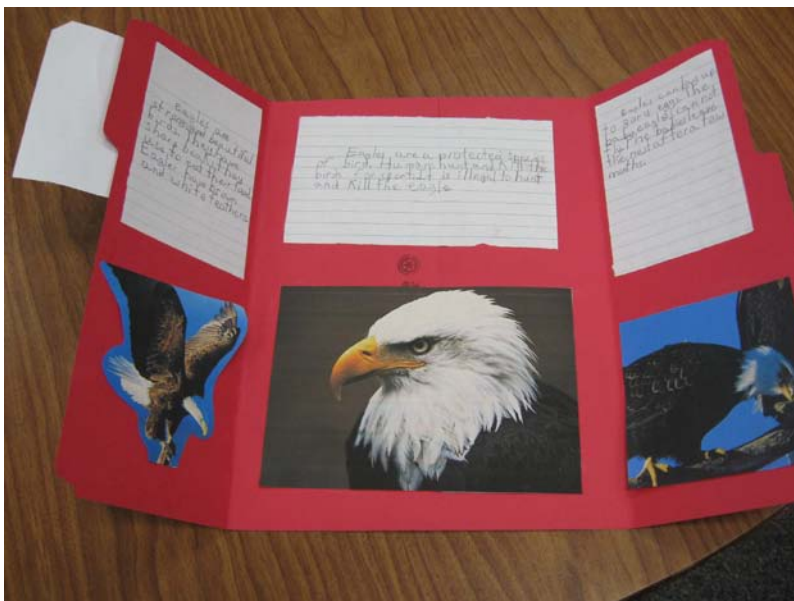
### *Regular Education Class Project Presentations*

The regular education class presented their projects in the media center. None of the students used PowerPoint presentations. Their topics included eagles, raccoons, animals, bears, extinct animals; saber tooth tigers, Florida panthers, dolphins and the football team the Green Bay Packers. Students used either file folders or poster display boards to present their topics. A few of the students worked in pairs. Most of the students researched their topics as individuals. One student had her family involved in helping her with her project. Her mother did some of the artwork, her father helped her gather leaves to glue on the board, her grandmother helped her with some of the writing and her aunt assisted her with using the computer to research (Figure 1). One student had chosen dolphins because they were her favorite animal even though she had never seen one. One of the reflective comments the students that researched the topic of bears made was that they felt their topic was too broad. Another student had chosen the topic of animals and felt that having such a broad topic made it easier. Her sources included a book about animals she had at home and a website from *National Geographic*. One of the students demonstrated the first step in the FINDS research process focus when asked why he chose eagles as his topic by saying “I wanted to know what they do” (PGREG 3/17/09), (Figure 2). Another student chose raccoons because they were getting into his garbage can

and he wanted to find out what he could do to prevent it. The classroom teacher provided guiding questions for the students to use when researching their topics such as what does your animal look like, where does it live, what does it eat, how does it find its food, does it have any predators and what other interesting facts or characteristics are there?



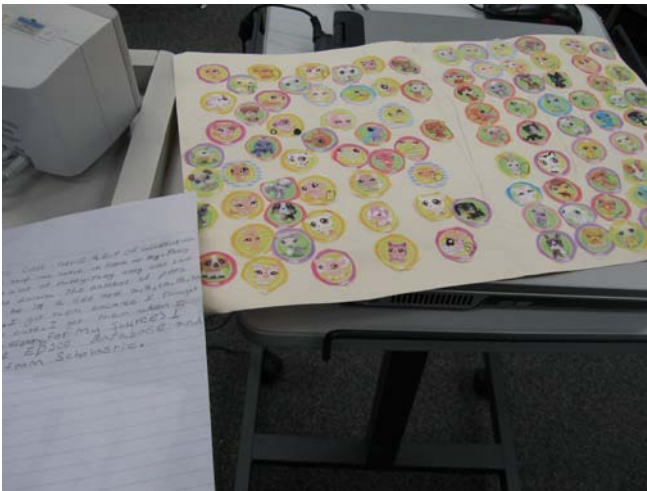
**Figure 1 Project Group Regular Ed. Poster**



**Figure 2 Project Group Reg Ed Folder**

### *Exceptional Student Education Class Project Presentations*

The exceptional student education class presented their projects with the gifted class as an audience. Of the three classes in the project group, this class took student interest to heart. One student chose the miniature figurines of Littlest Pet Shop™ as her topic. She was a collector of the toys and was able to use the Internet and a book from the school book fair to research her topic. She did a PowerPoint presentation, made a folder with pictures and did a report (Figure 3). Another student chose to research the popular children's icon Hannah Montana. One student researched arctic animals. The teacher commented "My room has never been so quiet- when they were working on their PowerPoints I couldn't believe it was my room" (PGESE 3/24/09).



**Figure 3 Project Group ESE Presentation**

### *Gifted class second Project Presentations*

The gifted class did their second set of presentations. This time they did their projects as individuals. Topics included casts, castles, Lego Star Wars™, video games

and Abraham Lincoln. When questioned about her interest in Abraham Lincoln the student shared she had visited the Lincoln home on vacation last summer and she was fascinated with him (Figure 5). One student that chose castles made a replica of a castle along with a PowerPoint presentation. Another student used her experience of breaking her arm to do a presentation on casts. For her research she incorporated her personal experience, studied books about the human body and interviewed her doctor. One student chose video games as his topic. His video game PowerPoint demonstrated that the student had done research to find the history of video games (Figure 4). One student chose the guitar, which he was just learning to play, as his topic. He had his mother bring in his guitar and he played a few songs. He was unable to demonstrate any research through his presentation. He was one of the students that participated in being interviewed for the study, and when asked if he would do anything differently next time, he talked about using EBSCO to do his research. The interview demonstrated that even though his project presentation did not show evidence of the research process, he did have an understanding of it.



**Figure 4 Project Group Gifted Power Point**



**Figure 5 Project Group Gifted Poster Board**

## Curriculum Group Presentations

### *The Gifted Class Curriculum Group Presentations*

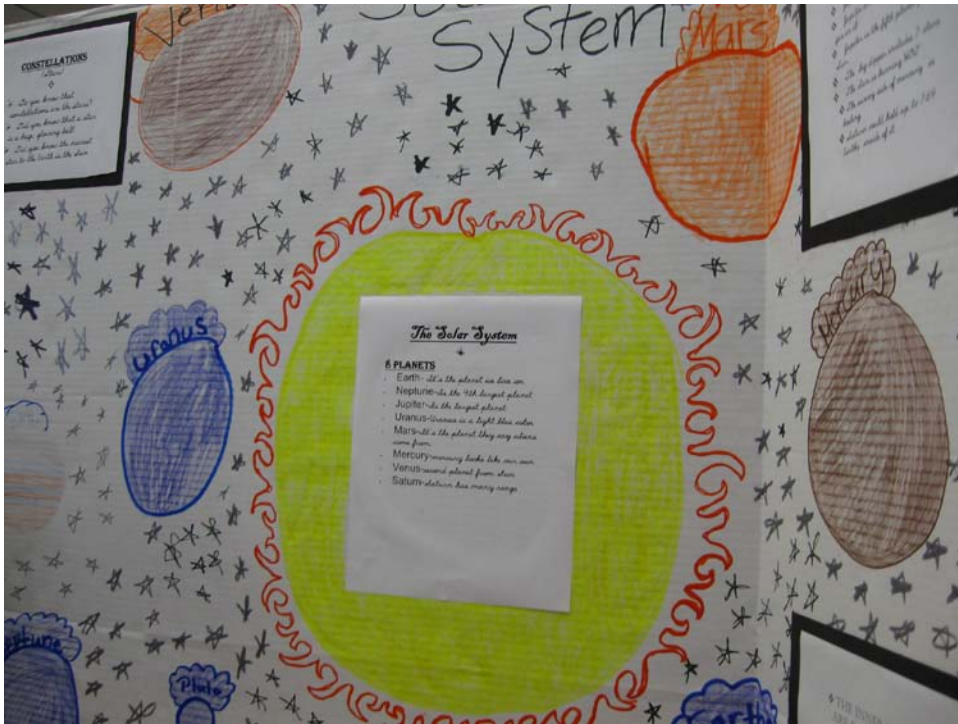
The gifted class began working on their projects from the beginning of their media lessons. The teacher had chosen partners for students and the topics to work on animals above, below and on the ground in different habitats. Each pair of students was to do five separate topic presentations (Figure 6). They were able to choose their presentation method and were asked to use different formats for presenting each topic. Presentations included using PowerPoint, dioramas, paper bag displays, posters and display boards.

<b>Group</b>	<b>Arctic</b>	<b>Desert</b>	<b>Woodlands</b>	<b>Grassland</b>	<b>Forests</b>
<b>1</b>	<b>Ptarmigan</b>	<b>Burrowing Owls</b>	<b>Eastern Box Turtle</b>	<b>Prairie Dog</b>	<b>Burma plug Gecko</b>
<b>2</b>	<b>Ermine-Stoat</b>	<b>Spade foot Toad</b>	<b>Mole</b>	<b>Wombat</b>	<b>Eastern Bearded Dragon</b>
<b>3</b>	<b>Snowy Owl</b>	<b>Kangaroo Rats</b>	<b>Red Fox</b>	<b>Skunks</b>	<b>Mole Cricket</b>
<b>4</b>	<b>Musk Ox</b>	<b>Meerkat</b>	<b>Striped Skunk</b>	<b>Bison</b>	<b>Cockroach</b>
<b>5</b>	<b>Caribou</b>	<b>Elf Owl</b>	<b>Ground-Hog</b>	<b>Pocket Mice</b>	<b>Mouse Spider</b>
<b>6</b>	<b>Gray Wolf</b>	<b>Warthog</b>	<b>Long-tailed Weasel</b>	<b>Bobcat</b>	<b>Bulldog Ants</b>
<b>7</b>	<b>Wolverines</b>	<b>Aardvark</b>	<b>Deer Mouse</b>	<b>Maras</b>	<b>Bird Eating Spider</b>
<b>8</b>	<b>Lemmings</b>	<b>Bat-Eared Foxes</b>	<b>Eastern Spade foot Toad</b>	<b>Armadillo</b>	<b>Earthworm</b>

**Figure 6 Curriculum Group Gifted Topics**

*Regular Education Curriculum Presentations*

This class did not begin their research until after the statewide standardized testing was completed in March. Originally the teacher had begun to do a unit of study on forces and fossil fuels, but did not follow through with the research. After the state standardized testing was completed the teacher chose the broad topic of the solar system to have the class research. When this class was ready to present, the teacher brought them to the media center. One group of students presented a poster board (Figure 7). Another group of students created a model (Figure 8). When the teacher asked a question about inner planets, every student raised his or her hand.



**Figure 7 Curriculum Group Regular Ed**

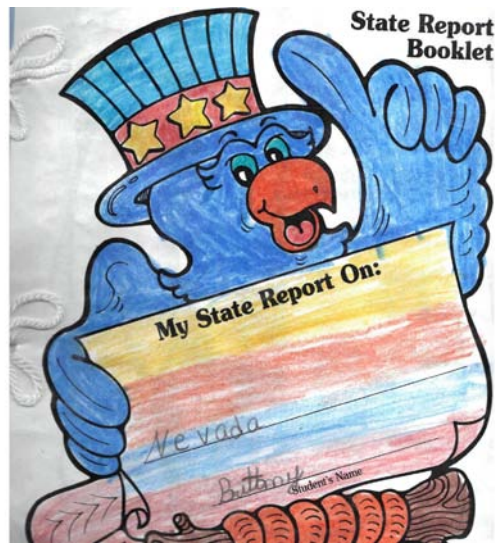


**Figure 8 Curriculum Group Regular Ed**



*Exceptional Student Education Curriculum Presentations*

This class did not present projects to the researcher. The class created booklets about each state and turned them in to their teacher (Figure 9). Five samples of their work were submitted to the committee for evaluation. This class was able to do most of their research during media lessons. Some of their research was incorporated into their media lessons such as using the state atlas, almanac and the country/state report section of the EBSCOhost database. This class had specific questions to look for that included information about each state's capital, such as the capital, state bird, population and attractions. The teacher started out with having them work in regional groups and then assigned them individual states. Much of their research was incorporated into media lessons.



**Figure 9 Curriculum Group ESE State Report**

### *Direct Instruction Group Research Folders*

The direct instruction group did not complete a project during their media lesson time. Cooperative activities using the research materials were completed during each session. This group completed the same activities as the other two groups with the exception of having a specific focus or topic for their activities and presenting a final product. The group maintained research folders which were evaluated at the end of the study using a three item criteria.

### Summary

The methodology incorporates both quantitative and qualitative measures including an information literacy pre and post test, work samples, student interviews and an electronic survey. Group samples were chosen purposively with three classrooms of third grade students in each group. The project and curriculum groups completed a project and the direct instruction group worked on activities to learn the Florida Research Process Model FINDS. The study compared teaching an information search process model using a constructivist design, an integrated approach and direct instruction. Through use of these measures the Finders Keepers study investigated three different teaching approaches to determine if one is more effective for teaching research skills to young children.

## CHAPTER FOUR: DATA ANALYSIS AND RESULTS

Data analysis included both quantitative and qualitative measures. Creswell calls for researchers to use the terminology of mixed-methods research when using data that incorporates both procedures (Creswell & Clark, 2007). This study includes both types of measures which are weighted as equally valuable components of the study. As the data includes student work samples, student interviews and surveys the data analysis is interpreted in a quadrant that includes information literacy pre and post test data, work samples, interview results, and survey results.

### Information Literacy Pre and Post Test Results

Statistical procedures were conducted using the predictive analysis statistical software PASW<sup>™</sup> Statistics 18.0 from SPSS. Variables included group, time between pre and post test and dependent score. Five outliers were removed that were more than 2.5 standard deviations from the mean. Repeated measures analysis with one between factor was used to analyze the data. Variance accounted for was assessed using a partial eta squared. There was a statistically significant increase in score for all three treatment groups ( $F_{1, 122} = 51.62, p < .01$ ), as shown in Table 1. Almost 30% of the change in score was accounted for by treatment. There was no statistically significant difference in score change between treatment groups ( $F_{2, 122} = .92, P > .05$ ). Only 1.5% of the score change was accounted for by treatment. There was no statistically significant interaction ( $F_{2, 122} = 1.1, P > .05$ ) between score change and treatment group. Approximately 2% of score change was accounted for by interaction.

**Table 1 Group Means**

	PRE TEST		POST TEST		CHANGE	
	MEAN	SD	MEAN	SD	MEAN	SD
Project Group	50.66	16.34	61.89	17.68	11.23	14.56
Curriculum Grp	47.63	15.47	56.73	17.14	9.1	14.68
Direct Instruc.	51.27	13.36	57.87	13.96	6.61	12.29

### Work Samples

#### *Evaluating the Project Group Presentations*

The gifted project group class showed a greater interest in working with their friends than they did with finding a topic of interest to them. Every student in the class chose to work with a partner except one. This class had the greatest background knowledge of research materials and the most experience with multimedia presentations. They demonstrated background knowledge of resources and reference materials during the beginning of media lessons.

Those that had hobbies were able to readily identify a topic that had meaning to them. Examples of this were topics such as video games, Littlest Pet Shop™, and Lego Star Wars™. Many students chose topics that could have easily been tied to curriculum such as animals, dolphins, extinct animals, bears, polar bears and tropical fish. The more obscure the topic, the more difficult it was for students to find the information that they needed. Early researchers demonstrated that they do not yet possess the skills and discretion to sift through Internet web sites in order to find their topics. The project approach that fits so well into the early childhood model is more challenging when applied to school-aged children doing independent research. However with teacher and

media specialist support these students were able to tackle more atypical topics such as Littlest Pet Shop™ and music icon Hannah Montana. For the gifted students, this was not the first time they had completed a project, used the Internet, or created PowerPoint presentations. The regular education class in this group showed the greatest gains in the means from pre to post test with 17.74 as the mean change as a group (Table 1). They also exhibited the greatest opportunity for growth, with their media lessons being the first time they had experienced using the media center in this way. Although the test scores showed gains, the presentations from this class represented only an introductory level of research skills, with work copied directly from text. On the rubric most of these students scored a two on the note and evaluation portion of the rubric.

#### *Evaluating the Curriculum Group Presentations*

The curriculum group showed the same level of enthusiasm for their research even though the teacher had chosen the topic for them. The gifted class in the curriculum group did five separate research projects as part of a unit on animals and habitats. One of the requirements for presenting was for them to not use the same presentation method twice. One exception to this was a student working by himself. When he presented his PowerPoint the techniques he used were sophisticated. He earned the role of advisor in helping other groups prepare their PowerPoint presentations. The teacher permitted this student to do more than one of this type of presentation.

The researcher was able to observe the class doing presentations three times. The second time, a special time was arranged at the end of the day. The teacher told the

researcher,” They wanted you to be here, they like the questions that you ask them” (CGGFT 2/11/2009).

The regular education class teacher started out choosing a topic and then abandoning the initiative during the study. After the statewide standardized test was over she was in a position to facilitate the project work. Although this class was the last one to complete their work, they showed the greatest level of enthusiasm of the three curriculum connection classrooms. The teacher commented,” The students loved working on their projects, they could just go on and on with it” (CGREG 4/23/2009).

The exceptional student education class in the curriculum connection group completed a very structured project. This topic had been taught many times previously by the classroom teacher. This class researched individual states in the United States. Each student then produced an individual booklet, which consisted of a set of worksheets. The greatest illustration of an understanding of the research process came from the least engaged student in this class: Researcher “Would you do anything differently next time?” Student: “I would use EBSCO because with EBSCO it is so easy, everything is right there and it is, you know true and everything, with Google you don’t know what to choose” (CGESE 5/18/09).

### *Evaluating the Direct Instruction Group*

The three classes that participated in the direct instruction group did not produce a project. All three classes were regular education students. They completed media lessons with little or no follow up from the classroom teacher (Appendix K).

On the information literacy test this group had the smallest change in their mean score from pre to post test of 6.61 (Table 1). Research folders were evaluated by the researcher and three of the teachers that participated in the study. The folders received an average of three; with one representing a need for improvement, three representing satisfactory work and five representing quality work. During the interviews, students from the direct instruction group demonstrated a partial understanding of the research process. They were able to demonstrate knowledge of the focus, investigate and note components of the FINDS Model. The sections of develop and score were not elaborated on in the interviews, as the students had no experience to draw upon in these areas.

#### *Committee Evaluations*

Three third grade teachers who participated in the study attended an evaluation meeting hosted by the researcher. During this time teachers shared student work samples and anecdotes about the study. The rubric that the teachers used incorporated the FINDS Model, with focus, investigate, note, develop and scoring as the criteria (Appendix O). Teachers looked for focus to see if the student had a topic, was it broad or specific, did it answer a question? Did they investigate the topic? Was the information presented in a way that answered the questions? The researcher and classroom teachers brought work samples to the meeting representing the two treatment groups, and a SMART Board was used to show PowerPoint presentations. The project group samples received an average of 19, with 15-19 being above average and the curriculum connection group samples received an average of 22, with 21-25 being outstanding.

## Student Interviews

Interviews with students from both the project and curriculum group indicated that both groups of students demonstrated an understanding of the research process.

Interviews revealed that the students in the project and curriculum groups had an understanding of the research process: focus, investigate, note, develop and score.

Sample interview from a student in the project group, exceptional student education class

on May 5, 2009: R- Researcher, S- Student

R How did you choose your topic?

S I chose King Cobras because I love snakes.

R Where did you get your information?

S EBSCOhost, a King Cobra Book, Wikipedia.

R If you had to do research again would you know what to do?

S I would definitely know what to do.

R What are the steps you would take?

S I would look on EBSCO and come to the library and get three books about whatever I'm doing it about. I heard on the radio that if you search the web you might find what you are looking for, so I might search the web.

R Anything else you want to tell me about your project? Did you learn anything new?

S Three things I knew already and I learned three more things.

R How would you present your project next time?

S I would definitely do a PowerPoint one more time (PGESE 5/5/09).

When asked to describe the steps he would take if he had to do another project a student

from the curriculum group said he would:

Choose what I was gonna do (Focus).

Choose to look for facts (Investigate).

Write down the facts not word by word (Note).

Then I'd color it to present it, write down facts on it, picture of what I was doing on my project, I would choose a background for it (Develop).

Then I would show it to my teacher and see if I could show my project (Score) (CGGFT 5/5/09).



Another student from the curriculum group demonstrated knowledge of the research process saying that if he had to do another project:

I'd see what I know first (Focus on the information need).

Look it up on the computer (Investigate resources).

Write down all the info I'd find (Note).

Make sure I don't copy all of it, like plagiarism (Note and evaluate facts).

Present it like a board or a box (Develop and score) (CGREG 5/6/09).

During an interview with a student from the project group the child demonstrated an understanding of focus by stating "at first my topic was too broad" and then stated "I was so specific that Google got me all the information I needed" (PGESE 5/14/09). When asked if he would do anything differently in the future he stated "Yes, I would use more EBSCO, not use Google, use library books." It is difficult to know if this is how the student really felt or if he was trying to please the researcher/media instructor.

Anonymous student survey data showed the majority of students would prefer to use a search engine over an educational database.

Students from the curriculum group that did a series of investigations about different animals above and below the ground were asked if there was a difference in how they did research by the end of the unit. One student stated "It was kind of confusing at the beginning we didn't know what websites to go on to get started. Then we started getting more used to it, knowing sites to go on and in the end we all loved it and we all wanted to do it again" (CGGFT 5/5/09). Another student from this class stated: "When I first went to collect the research I felt like I couldn't do it. But after I looked up about the grey wolf I found lots of information. I noticed on Wikipedia one of the things weren't really facts. In the end I checked over to make sure it made sense after a while of the doing the project I felt like I would be able to do it" (CGGFT 5/6/09). All of the

students in the project groups, both curriculum and choice, felt prepared to do a project in the future.

Students in the direct instruction group demonstrated some of the components of the Florida Research Process Model FINDS. The researcher asked “If you had to do a project what are the steps you would take?”

Student 1: I would research on lions (Focus).  
Look at books on the computer (Investigate).  
Look up authors last name (Investigate).  
Read and research (Investigate).  
Do my report (Develop) (DI REG1).

Student 2: Read some books about it (Investigate).  
Go on the Internet to Wikipedia, sometimes Google (Investigate).  
Take pictures of it, take notes (Note).  
Display it on a cardboard (Develop) (DIREG2).

Student 3: I would use books (Pointed to reference section) (Investigate).  
Look for facts in the book about the project (Note).  
Write it on a poster (Develop).  
I’ll make it in my own words (Note) (DIREG3).

Student 4: I would research King Cobras (Focus).  
I would get the real book about King Cobras, encyclopedia, dictionary (Investigate).  
I would read it, let my mom ask me questions about it, then I would answer questions on paper. I’d go on the Internet. I’d go to these guys that know a lot about snakes, I watch them on Animal Planet, I’d find out where they live on the Internet (Note).  
I would watch Animal Planet about king cobras .I would try to find another book about it with different facts. I’m gonna memorize it, write it all down, then I’d make a project out of it (Develop).  
I would buy one but take the fangs out, take pictures, write about what it eats, about the fangs and everything (Develop) (DIREG2).

One theme that emerged from the interviews was the concept of the information being good if the question was answered. This misconception came up repeatedly in the student interviews. The researcher asked: “How did you know it was good information?”

The student said: “It had the answer I was looking for” (GCGFT 5/09). Student interviews revealed that if a student could find an answer to a question that they had then they considered it good information without applying any evaluative criteria to the process. Kafai and Bates (1997) found that children fourth grade and below had difficulty evaluating information found on the Internet and note taking. The theme of students perceiving the information as being “good information” also emerged during their study. Student confidence in using search engines is reinforced by families and teachers. Upon searching for information in the media center a teacher was overheard saying “We’ll go back to our room and Google it” (CGREG 05/022/09).

Another theme that emerged from the interviews revealed that young researchers do not understand the criteria for evaluating websites. The following dialog with a student from the project group illustrates this assertion:

R: How will you know what you find on the web will be good information?

S: By how many hits it has.

R: So the number of hits means it is good information?

S: Sometimes, if it has some facts in it or interesting myths.

R: How would you decide?

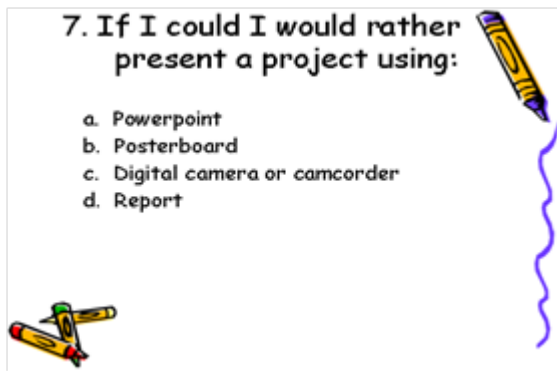
S: I’m not really sure.

### Student Surveys

Information from the media lesson survey provided a picture of the students’ affective experience with the research process. When asked if they would rather choose their own topic or have the teacher choose the topic for them 102 /119 students surveyed responded that they would rather choose their own topic.

When surveyed about their preference of using a search engine versus an educational database; 42/119 students said they would rather use an educational database and 77/119 of the students chose a search engine over educational database. For the choice of would you rather research using a book or a computer, 102/119 students responded that they would rather use a computer, 17/119 chose a book.

Another finding that the survey revealed was that regular education and exceptional student education students that completed a project chose to present a project in the format they had used for their project (Figure 6). For example the exceptional student education students that did a report chose that they would rather present their work as a report. ESE students that did a poster board chose this method. Table 2 shows that from the direct instruction group 36 Regular education students surveyed chose from a range of presentation methods with 9 choosing PowerPoint, 4 choosing poster board, 15 choosing digital camera or camcorder and 8 choosing a report.



**Table 2 Survey Results Q7**

CGREG	CGESE	CGGFT	DIREG1	DIREG2	DIREG3	PG REG	PGESE	PGGFT
C	D	C	C	A	B	C	B	C
C	D	C	B	A	D	B	A	A
C	D	C	C	D	C	C	B	C
C	D	B	C	D	C	C	B	A
A	D	C	D	A	C	B	A	B
C	D	A	C	A	C	B	B	A
A	C	C	C	A	D	B	A	C
C	D	A	C	A	D	B	B	A
C	A	A	C	A	D	C	C	A
C	A	A	B	A	C	C	C	C
C	D	C	B	D	C	A	A	C
C	D	A		A		B	B	C
C	D	B		C				A
		C		C				C
		A						A
								C
								C

**Summary of Results**

The quantitative results did not show one group as more effective than the other, however it did show a statistically significant gain in all three groups from the pre to post test. The work samples gave a rich picture of what the students in each treatment group produced. A committee of teachers using the information literacy FINDS/FIVES rubric found both groups that did a project demonstrated proficiency in the research process with the curriculum group achieving an outstanding rating and the project group receiving an above average rating. The direct instruction group work was rated as satisfactory on a three item rating scale. Student interviews showed the students that did a project had a fuller understanding of the research process than the direct instruction group which did not complete a project. Survey data revealed student preferences for doing research in favor of electronic resources, multimedia presentations, and revealed the element of choice as important to the students.

## CHAPTER FIVE: CONCLUSION

Viewing the quantitative data and qualitative data through a holistic lens contributed to the conclusions and recommendations for the research questions. To determine which of the three learning experiences produced the most effective results encompassed dissecting each aspect of the data and forming a complete picture of the students' experience. This included what they learned from the media lessons as measured by the information literacy pre and post test, what they were able to present about their topic, how they were able to demonstrate their knowledge of the research process through their interview answers, and how they felt about different aspects of research as evidenced by their survey results.

### Information Literacy Test Findings

All three groups showed statistically significant gains from pre to post test. Although the pre-test scores for the project group were lower than those in the curriculum and direct instruction groups, the students in all three groups had similar scores on the post test. One explanation as to why the groups did not show a statistically significant difference between them was the variation in the pre and post test scores. The direct instruction group had the least gains of all three groups. The information literacy test contained 23 questions, with 11 of the questions specifically addressing the topic of research and 12 addressing library related topics such as call numbers and fiction. Analysis was not conducted to see if those specific questions were answered differently between the three groups. Because the research question concerned the different methods

of instruction across groups, further mining of the data was not conducted during the study.

### Project Group Findings

The project group demonstrated the same skill levels as the curriculum group. The project group had the opportunity to select their topics and presentation methods. One of the key components of the project approach is planning research or investigations around children's interests. Since they did not have the guidance of the instructor to observe their interests emerge it was up to each student to decide what to research. Some children were able to choose a topic of interest; others had to search for something study. The choices that the students made suggest a trend toward students either not having, or not defining a topic of personal interest. Another assumption is that students enjoy researching concrete topics such as bears, dolphins and dogs.

The project group also confirmed that the more unique the topic, the greater the need to use the Internet to find information. Two of the classes had not had any prior experience with doing research or giving a presentation. The level of support given by the classroom teacher and media specialist increased due to this factor and some of the more obscure topics chosen. Although students were taught the difference between an educational database and a search engine, they chose to use a search engine for their research.

The regular education class resembled the curriculum group because the students were given the broad topic of animals to choose to research. The teacher provided guiding questions for her students. This class required the additional structure of the

guiding questions due to the ability level of the majority of the students. Having the broad topic of animals and the element of choice for their project provided an opportunity for these students to have success with the research process and fulfill their basic need for freedom through choice. Although this model does not embody the true spirit of the project approach, it brings educators one step closer to allowing students to learn in a way that both satisfies the school's academic requirements and fulfills the students' affective needs.

### Curriculum Group Findings

The gifted class began their project work at the onset of media lessons. Due to the organization and focus of the classroom teacher this group was able to complete multiple research projects, present in varying ways and improve their research and presentation skills each time. They also had the advantage of incorporating their research into the media lesson activities. The teacher chose the topics and assigned animals to each group to study in different habitats. Each group of students did five separate projects. Each time suggestions for improvement came from the teacher, researcher or class. The repeated presentations improved their research skills. One group of students that began by printing out pages from the Internet, gluing it to a poster board and calling it research, was able to find information from an educational database, summarize facts and cite sources by the end of their five presentations. This class of students demonstrated growth in their research abilities during the study through improvements made during their multiple presentations. The interviews conducted with the students from this class showed the researcher that these students had an understanding of the research process. The gifted



curriculum group was using educational databases at the end of their project presentations, and the project gifted group showed a greater affinity toward using EBSCOhost as well.

The regular education class in the curriculum group had a difficult time getting started with their project work. As a result they spent all of their media lesson time on media lessons and did the project independently after the lessons were completed. It is important to note that this teacher that had been teaching for over twenty years had never had students do a project like this before. This class showed the greatest gain in the post test scores for their group. A contributing factor to consider is that the structure and culture of this classroom was such that students were used to sitting together at tables instead of individual desks, working as groups and having variability in what each group of students was doing. Project work for them was a natural fit with the learning style that they were accustomed to. Post project discussion with the teacher confirmed that she found the activity worthwhile and would repeat it with future classes in years to come.

The exceptional student education (ESE) class benefited from the structure of the assignment, the guidance of the media specialist and the availability of the resources, both print and electronic. The teacher had allowed the students to choose their states, but found the need to rearrange this for purposes of placing them in regional groups. The students experience with this was illuminated during an interview with one of the students from this group: The researcher asked “How did you choose your topic?” The student replied “I didn’t get to choose my topic, I chose a state and then the teacher changed it” (ESECG.5/12/09). Some of the confusion could have been eliminated with collaboration between the teacher and the media specialist. Instead of using a worksheet

style book the students could have had questions that coincided with the headings on the educational databases state report site. Further recommendations include having the students choose their state, allowing for variety in presentation methods and greater focused collaboration between the teacher and the media specialist. The ESE class in the project group demonstrated that they were able to navigate the element of choice in both the topic and the presentation method.

### Direct Instruction Group Findings

Pre and post test results, research folders, and interviews all fell short of the other two groups. Students had the smallest gain from pre to post test mean scores. Folders received an average rating. Interviews revealed a partial understanding of the research process. Because there was no project work involved, the only collaboration between the teacher and the media specialist had to do with behavior. In addition, because there was not a project to complete the level of completion of each media lesson activity varied, with some students completing all of the activities and some only a minimal amount of work.

This model of media lessons without a project is one that had been used at this elementary school in previous years. A recommendation is to find an area of content that could be researched in conjunction with the lessons and include the element of choice.

### Work Sample Findings

Both of the groups of students that completed projects demonstrated evidence of the research process through their project work. The curriculum group had a mean score

of 22 on the FINDS/FIVES rubric which surpassed the project groups mean score of 19. One contributing factor was that in the curriculum group the gifted class had an organized animal/habitat projects with specific questions, the ESE class had written questions for the state project, and the regular education class had questions for the solar system project. All three teachers were involved with the research and this contributed to the success of the curriculum group project evaluations. Both gifted classes did more than one project and more than one presentation. Although this was not part of the study design this did contribute to the quality of the student work. The curriculum group gifted class did multiple presentations because the teacher planned it that way. The project group gifted class did a second presentation to try and draw out student interest in a topic. This did not impact the results of the study as both treatment groups contained a gifted class, and both gifted classes did multiple presentations.

The project group was able to observe each other during the presentations. The ESE class observed the gifted class and learned about PowerPoint presentations and then the gifted class observed the ESE class to learn about student interests. The regular education project group teacher had the students choose an animal and she used guiding questions for her students. Her group resembled more closely the curriculum group; however the element of student choice was utilized. The regular education class did not use multimedia for their presentations.

Recommendations for future studies would include inviting teachers and their students to observe project presentations of another class and to use the FINDS/FIVES rubric at that time. In addition, the teachers were not given guidelines as to how to

structure the projects (or not structure them). Collaboration with the classroom teacher on a greater scale would contribute to the achievement of the study.

### Interview Findings

The FINDS Model was used as a rubric for analyzing interview answers. In comparing interviews with students from each of the groups the children that completed a project had a more robust understanding of the research process than the students in the direct instruction group. Direct instruction students did not demonstrate the breadth of knowledge about the research process during their interviews. One student from the direct instruction group was unable to demonstrate any of the steps of the research process.

Researcher observation during media lessons confirmed that elementary school students do understand that for research they need fact books or non-fictional text. At this elementary school circulation statistics for non-fiction are high and many teachers encourage students to select non-fiction books from the media center. However interviews show that students do not transfer this understanding of the need for factual materials when searching for information on the Internet. As a result, the student interpretation of information being good if it answers the query or question, did not demonstrate the critical thinking or evaluation of facts that is called for when conducting research.

## Media Lesson Survey Findings

The media lesson survey was a valuable tool in discovering the students' preferences and affective experiences with research. According to the SENTEO™ survey the element of choice was something that students that did a project and students that did not do a project both felt was important.

The survey revealed the following student preferences:

1. Students given a choice will choose to use a search engine instead of an educational database.
2. Students prefer to use the computer instead of books for research.
3. Students prefer to choose their own topic when doing research rather than have the topic chosen for them.

## Recommendations for Future Research

The project group demonstrated that the element of choice is an important component in teaching research skills to young children. However due to their lack of research experience, topics confined to material that is easily accessed either electronically or in print is an effective starting point. Young researchers do not demonstrate the critical thinking skills to discern whether information that they find on the Internet is valid, reliable and factual. Some factors that would assist with this include scaffolding children's learning of how to use electronic resources appropriately or providing them with specific sites to use that are educational. Future research for project work could include looking at cooperative groupings versus individuals doing research,

the value of multiple project presentations, and teacher and media specialist collaboration. Further research could also look at project work for intermediate and upper grade students.

In the curriculum group the greatest amount of learning research skills took place when multiple projects were completed with a connection to curriculum. The study design did not include looking at multiple projects; however this component warrants future research. The regular education class with the topic of the solar system presented display boards that the committee evaluated at the highest level. The demonstration of an understanding of the research process was most apparent in the curriculum group.

### Summary

The Finders Keepers study sought to determine which approach is most effective in teaching research skills to young children. The review of the literature emphasizes the need for skills to be taught in conjunction with some type of content. The study found that research skills taught in isolation do not result in research proficiency. The qualitative data, work samples and student interviews suggest that the groups doing a project had a greater understanding of the research process than the students that did not do a project.

Each instructional method had strengths and weaknesses. The strength of the project group incorporated affective aspects for young children including the element of choice and student interest. Challenges included the difficulty student's had finding information about obscure topics. The curriculum group demonstrated elements of successful research acquisition. These included teacher/media specialist collaboration,

connection with content and producing a product that demonstrated learning. Learners in this group also found it helpful to have guiding questions. Advantages of a direct instruction model are that it provides a method of delivery that can accommodate large groups of students in a short amount of time. However when evaluating the quantitative and qualitative components of the study this was the least effective teaching method of the three groups.

The Finders Keepers study provides teachers, media specialists and educators with information about how to teach research skills to young children in a way that is both effective for learning and affective for students. This study supports existing research (Kulthau 1989, Scott & O'Sullivan 2005) that suggests that the best way to teach research skills is through a connection with curriculum. The study also supports using an information search process model.

### Implications for Educators

These findings challenge educators, database providers and communities to create a more student-friendly system for database access. Education for both teachers and families about how to encourage research on web sites through gateway systems like SUNLINK, Public Libraries systems and school provided sites is necessary to reinforce the importance of using appropriate research sources. Recognizing that an entire perspective on media has transformed completely in a very short period of time and taking the training to accommodate this is important for educators. The future of research and information seeking implores us to prepare students that do not yet have the skills to critique electronic information for appropriateness and educational value. Therefore it is

imperative that we are able to provide them with places to go in the digital domain that are understandable, easy to access and user friendly. The World Wide Web holds information that is rich in value for users that obtain the skills to sift through it to find what they are searching for. My hope is that the treasure trove of skills that students acquired through the FINDS Model is for keeps.



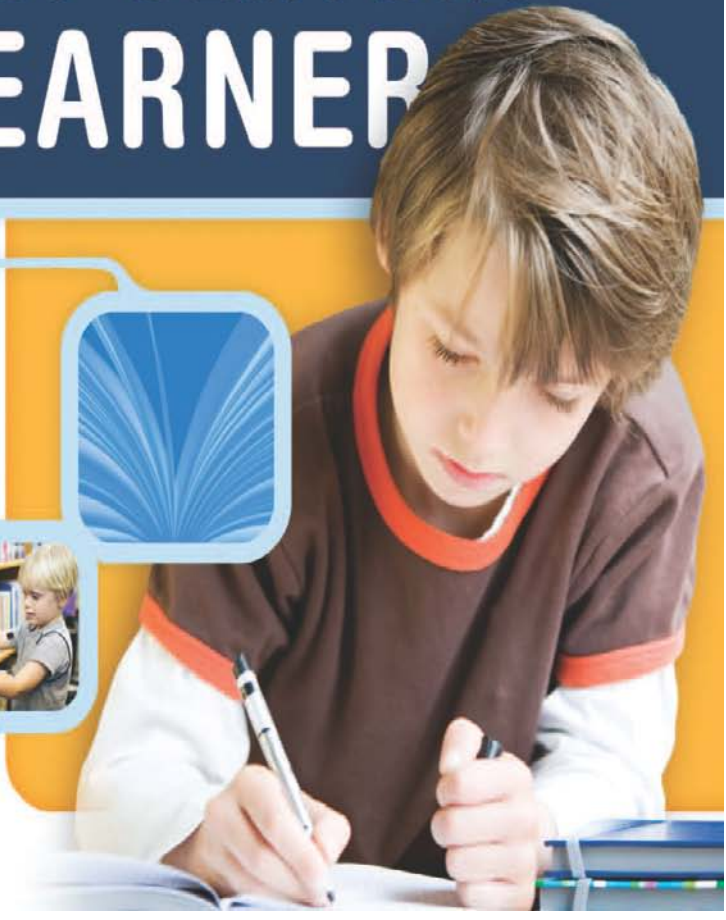
## APPENDIX A: AASL STANDARDS FOR 21<sup>ST</sup> CENTURY LEARNERS



AMERICAN ASSOCIATION  
OF SCHOOL LIBRARIANS



STANDARDS FOR THE  
**21st-CENTURY  
LEARNER**



# COMMON BELIEFS

**Reading is a window to the world.**

Reading is a foundational skill for learning, personal growth, and enjoyment. The degree to which students can read and understand text in all formats (e.g., picture, video, print) and all contexts is a key indicator of success in school and in life. As a lifelong learning skill, reading goes beyond decoding and comprehension to interpretation and development of new understandings.

**Inquiry provides a framework for learning.**

To become independent learners, students must gain not only the skills but also the disposition to use those skills, along with an understanding of their own responsibilities and self-assessment strategies. Combined, these four elements build a learner who can thrive in a complex information environment.

**Ethical behavior in the use of information must be taught.**

In this increasingly global world of information, students must be taught to seek diverse perspectives, gather and use information ethically, and use social tools responsibly and safely.

**Technology skills are crucial for future employment needs.**

Today's students need to develop information skills that will enable them to use technology as an important tool for learning, both now and in the future.

**Equitable access is a key component for education.**

All children deserve equitable access to books and reading, to information, and to information technology in an environment that is safe and conducive to learning.



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

Information literacy has progressed from the simple definition of using reference resources to find information. Multiple literacies, including digital, visual, textual, and technological, have now joined information literacy as crucial skills for this century.

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

The amount of information available to our learners necessitates that each individual acquire the skills to select, evaluate, and use information appropriately and effectively.

**Learning has a social context.**

Learning is enhanced by opportunities to share and learn with others. Students need to develop skills in sharing knowledge and learning with others, both in face-to-face situations and through technology.

**School libraries are essential to the development of learning skills.**

School libraries provide equitable physical and intellectual access to the resources and tools required for learning in a warm, stimulating, and safe environment. School librarians collaborate



with others to provide instruction, learning strategies, and practice in using the essential learning skills needed in the 21st century.

## LEARNERS USE SKILLS, RESOURCES, & TOOLS TO:

1

**Inquire, think critically, and gain knowledge.**

2

**Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.**

3

**Share knowledge and participate ethically and productively as members of our democratic society.**

4

**Pursue personal and aesthetic growth.**

1

**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 the 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**

**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 it 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.

**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.

**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.

**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.



# 3

## 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 understandings 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.

### 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.

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.

### 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.

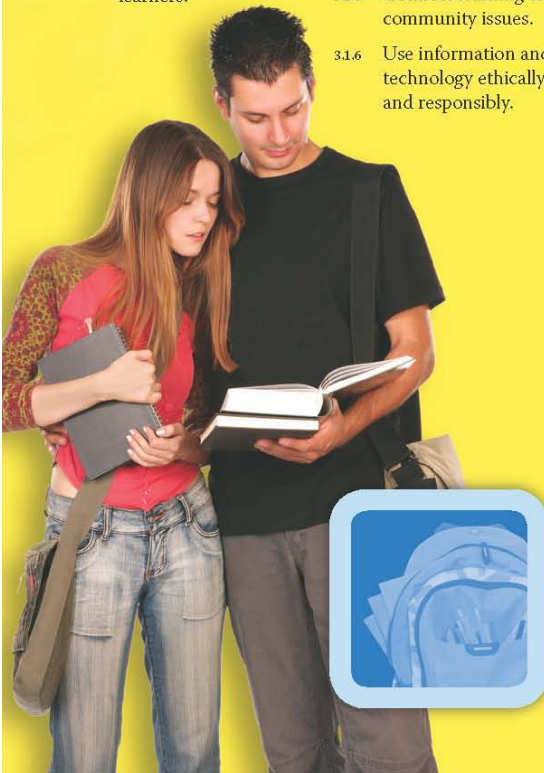
3.3.2 Respect the differing interests and experiences of others, and seek a variety of viewpoints.

### 3.4 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.



# 4

## 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.



### 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 an interest in various literary genres.

### 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.



### 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.



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# 21st CENTURY LEARNERS

## Skills

Key abilities needed for understanding, learning, thinking, and mastering subjects.

### key question

*Does the student have the right proficiencies to explore a topic or subject further?*

## Dispositions in Action

Ongoing beliefs and attitudes that guide thinking and intellectual behavior that can be measured through actions taken.

### key question

*Is the student disposed to higher-level thinking and actively engaged in critical thinking to gain and share knowledge?*

## Responsibilities

Common behaviors used by independent learners in researching, investigating, and problem solving.

### key question

*Is the student aware that the foundational traits for 21st-century learning require self-accountability that extends beyond skills and dispositions?*

## Self-Assessment Strategies

Reflections on one's own learning to determine that the skills, dispositions, and responsibilities are effective.

### key question

*Can the student recognize personal strengths and weaknesses over time and become a stronger, more independent learner?*

APPENDIX B: INSTITUTIONAL REVIEW BOARD INFORMED CONSENT



Informed Consent from a Parent for a Child in a Non-medical Research Study  
Researchers at the University of Central Florida (UCF) study many topics. To do this we need the help of people who agree to take part in a research study. You are being asked to allow your child to take part in research study which will include about 139 children. Your child is being invited to take part in this research study because he or she is a third grade student at Tropic Isles Elementary School.

The person doing this research is Mrs. Serrell, Media Specialist at Tropic Isles Elementary. Because the researcher is a graduate student she is being guided by Dr. Penny Beile and Dr. Lea Witta, University of Central Florida faculty in Educational Studies.

Study title: Finders Keepers-A comparison of approaches to Teaching the Florida Research Process F.I.N.D.S. model

Purpose of the research study: The purpose of this study is to find the best teaching approach for students to learn research skills.

What your child will do as part of the regular library media lessons this year : Your child will participate in a series of media lessons during the 2<sup>nd</sup> and 3<sup>rd</sup> quarter of the 2008-2009 school year as part of their regular classroom assignments. This will help prepare your child for the information literacy section of the Florida Comprehensive Academic Test (FCAT). Your child will complete activities to learn the different steps of the research process.

As part of this study your child will be randomized (like the flip of a coin) to participate in one of three groups of students, each group will use a different teaching approach. Your child will remain with their class during media lessons. One group will complete activities to learn library skills using direct instruction. The second group will complete activities that are related to subjects taught in the classroom. The third group will complete activities about a topic that they choose to research. All students will participate in media lessons even if they are not participating in the research study described below.  
More information about the FINDS model can be found on the University of Central Florida's SUNLINK website: [Http://www.sunlink.edu/finds/](http://www.sunlink.edu/finds/).

Your child will take an information literacy pre and post test. The test will be administered on the computer using the School District of Lee County's achievement series. The test was developed by the School District of Lee County's Media Services department

The Research Study: Mrs. Karen Serrell is interested in studying ways that students learn about media literacy. She is asking for you to give her permission to use your child's test scores and work samples as part of her research project. Your decision and your child's decision to consent to participate will not affect the media training or the requirements for the regular classroom training and will not affect his or her relationship with the school or his or her teachers.

If you agree to have your child participate in the study: I am seeking permission from you to use your child's test scores as part of the study. Student work samples will be also be reviewed as part of the study.

Voluntary participation: You should allow your child to take part in this study only because you want to. There is no penalty for you or your child for not taking part, and neither you nor your child will lose any benefits. Your child's participation or non participation will not affect their grade or educational experience. You have the right to stop your child from taking part at any time. Just contact by the researcher and tell them that you no longer want your child to participate.

Location: The lessons will take in the Tropic Isles Elementary Media Center.

Time required: There is no additional time requirement for participation in the study as Mrs. Serrell is only requesting that you consent to allow her to use the scores and work samples that the children will already be providing as part of the regular class day.

Risks: There is a risk of breach of confidentiality with pre and post test data. Measures such as coding student information, a password protected computer and confidentiality will be used to minimize this risk. Your child does not have to answer every question or complete every task. There will be no loss of benefits if you or your child do not consent to allow us to use their pre and post-test scores and work samples in our research. In addition, there will be no loss of benefits if you or your child withdraw consent, or skip questions.

Benefits: There are no expected benefits to your child for taking part in this study.

Compensation or payment: There is no compensation, payment or extra credit for your child's part in this study.

Confidentiality: Every effort will be made to keep your child's identity confidential. The researcher will use procedures to maintain anonymity of

participants and their scores. For example, your child's name will be kept separate from the information he or she gives, and these two things will be stored in different places. Your child's information will be assigned a code number. The list connecting your child's name to this number will be kept in a locked file cabinet or in a password protected laptop computer. When the study is done and the data have been analyzed, the list will be destroyed. Your child's information will be combined with information from other children who took part in this study. When the researcher writes about this study to share what was learned with other researchers, she will write about this combined information. Your child's name will not be used in any report, so people will not know how he or she answered or what he or she did.

Study contact for questions about the study or to report a problem: Karen Serrell, Graduate Student, College of Educational Studies 239-995-4704, email Karenks@leeschools.net or Dr. Penny Beile, Faculty Supervisor, Curriculum Materials Center at (407) 823- 5488 or by email at pbeile@mail.ucf.edu.

IRB contact about you and your child's rights in the study or to report a complaint:

Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

How to return this consent form to the researcher: Please sign one copy of this consent form and return it in the enclosed envelope. Please check all boxes below that apply. Keep the second copy of the consent form for your records. By signing this letter, you give permission for me to use your child's test scores without their names attached in the final manuscript to be submitted to my faculty supervisor as part of my course work.

- I have read the procedure described above
- I voluntarily agree for my child to take part in the research
- I am at least 18 years of age

\_\_\_\_\_  
Signature of parent                      Printed name of parent                      Date

\_\_\_\_\_  
Signature of parent                      Printed name of parent                      Date

\_\_\_\_\_  
Printed name of child                      Principal Investigator                      Date

APPENDIX C: INSTITUTIONAL REVIEW BOARD APPROVED ADDENDUM



Informed Consent from a Parent for a Child in a Non-medical Research Study  
Your child is being invited to take part in this research study because he or she is a third grade student at Tropic Isles Elementary School and has completed the main portion of this study. The person doing this research is Mrs. Serrell, Media Specialist at Tropic Isles Elementary. Because the researcher is a graduate student she is being guided by Dr. Penny Beile and Dr. Lea Witta, University of Central Florida faculty in Educational Studies.

Study title: Finders Keepers-A comparison of approaches to Teaching the Florida Research Process F.I.N.D.S. model

Purpose of the interview: The purpose of the interview is to gain further insight into

Your child's understanding of the Florida Research Process F.I.N.D.S. Model.

If you agree to have your child participate in the study: I am seeking permission from you to interview your child as part of the study.

Voluntary participation: You should allow your child to take part in this study only because you want to. There is no penalty for you or your child for not taking part, and neither you nor your child will lose any benefits. Your child's participation or non participation will not affect their grade or educational experience. You have the right to stop your child from taking part at any time. Just contact by the researcher and tell them that you no longer want your child to participate.

Location: The interviews will take place in the Tropic Isles Elementary Media Center.

Time required: The interview will take between 10-15 minutes.

Risks: There is a risk of breach of confidentiality with interviewing. Measures such as coding student information, a password protected computer and confidentiality will be used to minimize this risk. Your child does not have to answer every question or complete every task. There will be no loss of benefits if you or your child do not consent to be interviewed. In addition, there will be no loss of benefits if you or your child withdraw consent, or skip questions.

Benefits: There are no expected benefits to your child for taking part in this study.



Compensation or payment: There is no compensation, payment or extra credit for your child's part in this study.

Confidentiality: Every effort will be made to keep your child's identity confidential. The researcher will use procedures to maintain anonymity of participants and their scores. For example, your child's name will be kept separate from the information he or she gives, and these two things will be stored in different places. Your child's information will be assigned a code number. The list connecting your child's name to this number will be kept in a locked file cabinet or in a password protected laptop computer. When the study is done and the data have been analyzed, the list will be destroyed. Your child's information will be combined with information from other children who took part in this study. When the researcher writes about this study to share what was learned with other researchers, she will write about this combined information. Your child's name will not be used in any report, so people will not know how he or she answered or what he or she did.

Study contact for questions about the study or to report a problem: Karen Serrell, Graduate Student, College of Educational Studies 239-995-4704, email Karenks@leeschools.net or Dr. Penny Beile, Faculty Supervisor, Curriculum Materials Center at (407) 823- 5488 or by email at pbeile@mail.ucf.edu.

IRB contact about you and your child's rights in the study or to report a complaint:

Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

How to return this consent form to the researcher: Please sign one copy of this consent form and return it in the enclosed envelope. Please check all boxes below that apply. Keep the second copy of the consent form for your records. By signing this letter, you give permission for me to use your child's interview without their names attached in the final manuscript to be submitted to my faculty supervisor as part of my course work.

I have read the procedure described above

I voluntarily agree for my child to take part in the research

I am at least 18 years of age

Signature of parent

Printed name of parent

Date

Printed name of child

Principal Investigator

Date

APPENDIX D: CHILD ASSENT SCRIPT

## Child Assent script for young elementary school children

Hi, I'm Mrs. Serrell, the Media Specialist here at Tropic Isles Elementary. Just like you, I am in school too. I am going to do a project that teaches students how to find things out and use the books and computers in the library. I would like your class to be a part of my project. As part of my research I want you to take a test to find out what you already know before I teach you. Then I will give you the same test after I teach you. I will use your test scores, your parent will have to sign a permission letter. These test scores do not count as part of your regular grade. You will not be treated differently if you don't want to do this. Do you have any questions? Raise your hand if you would like to do this.

(To be read by the principal investigator Karen Serrell).

## APPENDIX E: LESSON PLANS

<b>LESSON PLAN:</b>
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<b>National Literacy Standard</b>	AASL 1.1.8, AASL 1.1.4 American Association of School Libraries	<b>GRADES K-5</b>
<b>Florida GLE</b>	3.1.1 Identify Areas of Inquiry working on projects in groups or individually. 3.1.1.4 Define search terms (e.g. alternate terms, keywords) LA. 3.1.6.5, LA. 3.5.2.1, Sunshine State Standards 3.2.1 Locate collections such as fiction, nonfiction, reference, biography, non-print, and e-resources, working in groups or individually 3.2.1.1 Locate resources using a title, subject, or author search in the online public access catalog (OPAC) LA. 3.2.1.8, L.A.3.2.2.5. 3.3.1.2. Retrieve fiction, nonfiction, and reference books from shelves using call numbers. LA. 3.2.1.8, LA 3.2.2.5	
<b>Library Objective</b>	<b>Students will know and understand how to use the library catalog to find materials/resources in the media center.</b>	
<b>Title</b>	<i>Do we Dewey?</i>	
<b>Resources</b>	On the tables- Look Fribble where's Dewey comic strips, Dewey posters, Non-fiction books on each table. For the instructor- Dewey Powerpoint, Smartboard, Destiny (OPAC), Smartboard notepad For the Scavenger hunt- Clipboards, overhead markers, shelf marker, scavenger hunt on laminated paper	
<b>Introduction</b>	Students see welcome on the smartboard with the message read the comic strip on your table, after they have read it , followed by discussion	
<b>Vocabulary</b>	Keyword Search, Catalog, OPAC, Fiction, Non-Fiction, Decimal, Dewey Decimal System, Reference, Call Number, Destiny and Destiny Quest	
<b>Activity</b>	Students read the comic strip and then discuss what is learned. Objective is introduced. Vocabulary discussed and then Dewey Decimal PowerPoint is shown. Students use books on their tables to read the title and call numbers. You are the author activity- After discussing several examples of last names and call numbers students go to the fiction wall and find a book that has the same 3 letters as their last name. Catalog is shown using Smartboard with students circling the following parts of the query- number of hits, how many available, call number, AR book level Students are also shown how to use AR filters to find books in their reading level and Destiny Quest. Scavenger hunt is done in groups of 3 with a keyboarder, a looker (shelf marker) and recorder (Clipboard and markers). This can be done as a separate lesson if time permits. Students are to write the call numbers of books that are located next to the number on the scavenger hunt. Example: 1. F LIN The Keyboarder can use MEDIA SEARCH to find materials on the computer.	
<b>Closure/ Evaluation</b>	Students look up books using the catalog as part of the scavenger hunt or to find books if scavenger hunt has not been completed. Review vocabulary and objective. Plus/Deltas	

<b>LESSON PLAN:</b>
---------------------

<b>National Literacy Standard</b>	AASL 1.1.8, AASL 1.3.5, AASL 3.1.6	<b>GRADES K-5</b>
<b>Florida GLE</b>	Investigate resources to search for answers <b>3.2.1.3</b> Identify appropriate resources from various locations (e.g. school/public library, Internet, book store) LA. 3.2.1.8 <b>3.2.1.4</b> Use online resources (e.g. catalog, encyclopedias and preselected Internet sites) with assistance. LA 3.6.4.1 <b>3.2.4</b> Follow guidelines and etiquette in use of electronic information sources. LA. 3.6.3.1 <b>3.2.4.4.</b> Begin to demonstrate responsible use of Internet and other e-resources consistent with the school's Acceptable Use Policy. LA 3.6.4.1	
<b>Library Objective</b>	<b>To introduce the Florida Research Process Model, FINDS</b>	
<b>Title</b>	<i>FINDERS KEEPERS</i>	
<b>Resources</b>	Copies of FINDS model, glue, stickers with EBSCOHOST information, SMARTboard, Computers with EBSCO icon on desktop	
<b>Introduction</b>	Review of former lesson.	
<b>Vocabulary</b>	Focus, Investigate, Note, Develop, Score, Search Engine, Educational Database	
<b>Activity</b>	Review features in Destiny, vocabulary and concepts from last lesson. Discuss deltas if applicable. Students create research folders using FINDS handouts and gluesticks. Discuss the FINDS model having students read each section aloud and give examples of what each heading means. Show FINDS PowerPoint. Lesson on Search Engine versus Educational database. Students go to computer stations and completed index card activities or use blank index cards to search for topics. Allow for students to use the catalog to find books about their topic if they are ready to do so.	
<b>Closure/ Evaluation</b>	Review of the FINDS model and plus/deltas.	

**LESSON PLAN:**

<b>National Literacy Standard</b>	AASL 1.2.3, AASL 1.1.6	<b>GRADES K-5</b>
<b>Florida GLE</b>	<b>3.2.3</b> Demonstrate an understanding of how information is organized and located, working in groups or individually. <b>3.2.3.1</b> Recognize that reference information is organized in specific formats (e.g. dictionaries, encyclopedias, almanacs, atlases). LA. 3.6.1.1, LA. 3.6.2.2 <b>3.3.1.3</b> Use graphs, charts, tables, diagrams, maps, illustrations, photographs, and other visuals LA. 3.1.7.1, LA 3.2.2.1.	
<b>Library Objective</b>	<b>Students will understand reference materials and learn how to locate information using guide words, table of contents and indexes.</b>	
<b>Title</b>	<i>Fun with Reference books</i>	
<b>Resources</b>	World Book Encyclopedias, Scholastic Almanac, United States Atlas and World Atlas, Thesaurus, Activity sheets	
<b>Introduction</b>	Each of the activities will be explained along with vocabulary words.	
<b>Vocabulary</b>	Guide words, Index, Table of Contents, Atlas, Almanac, Encyclopedia, Thesaurus, synonym	
<b>Activity</b>	Introduce each of the activities, Almanac Scavenger Hunt, Encyclopedia Activity, Atlas Activity and Thesaurus Activity. Students may work in groups or individually at each table. Encyclopedia activity must be done individually. After overview is finished divide the remaining time in 4 and set timer for each rotation.	
<b>Closure/ Evaluation</b>	Review vocabulary. Plus/Deltas.	



**LESSON PLAN:**

<b>National Literacy Standard</b>	AASL 2.2.1, AASL 4.3.2	<b>GRADES K-5</b>
<b>Florida GLE</b>	<b>3.3.3.2</b> Understand that resources may be organized according to type or format alphabetically, numerically or topically. <b>3.2.3.3</b> Use headings, captions, keywords, glossaries, tables of contents and indexes. LA. 3.1.7.1, LA. 3.2.2.1	
<b>Library Objective</b>	Students will demonstrate and understanding of how information is organized working in small groups or individually.	
<b>Title</b>	<i>Resources</i>	
<b>Resources</b>	Non-Fiction Books with examples of Glossary, Captions, and Vocabulary. Almanacs with post-it notes on examples of timelines. Worksheets from Unwrapping a book, Features of Non-Fiction Text: Vivid Vocabulary, Clever Captions, Wonderful Words and My Milestones.	
<b>Introduction</b>	Explain activities.	
<b>Vocabulary</b>	Glossary, Captions, Vocabulary, Timeline, Milestone	
<b>Activity</b>	Students will rotate to four different tables to complete the activities. Students may work individually, in pairs or as a group on each activity.	
<b>Closure/ Evaluation</b>	Review Vocabulary. Plus/Deltas.	

*Comments:*

APPENDIX F: INFORMATION LITERACY PRE-TEST

## Information Literacy Skills Test: Elementary

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

Test Instructions: Please do not write on test.

1. A fact is
  - A. information that can be proven to be true.
  - B. someone's thoughts on a subject.
  - C. a question on a test.
  
2. To find the call number for a book in the library you should use
  - A. a dictionary and encyclopedia.
  - B. a thesaurus.
  - C. an online public access catalog. (OPAC)
  - D. all of the above.
  
3. When planning your research it is important to
  - A. develop information into knowledge for presentation.
  - B. investigate resources to search for answers.
  - C. focus on the information needs.
  - D. note and evaluate facts.
  
4. An encyclopedia can be used for
  - A. basic information on a topic.
  - B. word definitions
  - C. finding quotes.
  
5. These books should be in ABC order. Which of them would be second on the shelf?
  - A. F Horn
  - B. F Hip
  - C. F Her
  - D. F Him
  
6. An atlas can be used for
  - A. addresses of authors.
  - B. basic information about books.
  - C. finding lists of award winning books.
  - D. finding geographic locations.

7. Before using information, you should check to see if it is
  - A. up-to-date, a fact, or an opinion.
  - B. funny and makes you laugh.
  - C. available on video.
  
8. When using information from a Web site for school projects, the best answer to ask yourself is
  - A. "Can I order products from this site?"
  - B. "Are these pictures/graphs/charts colorful enough?"
  - C. "Who is the author of this information and is it accurate?"
  
9. When using keywords, it is important to
  - A. include synonyms (words that have similar meanings).
  - B. spell correctly.
  - C. choose important words related to your search.
  - D. all of the above.
  
10. What is the call number for all biographies?
  - A. 468
  - B. BIO
  - C. 92
  - D. 89
  
11. What is Google?
  - A. a software program
  - B. an online encyclopedia
  - C. an internet search engine
  - D. a computer game
  
12. When doing a research project (Investigate) it is best to use information from
  - A. a book.
  - B. an encyclopedia.
  - C. the internet.
  - D. all of the above.
  
13. The table of contents is
  - A. a place where you eat dinner.
  - B. a list of chapters found at the front of a book.
  - C. a list of chapters found at the back of a book.
  - D. all of the above.

14. The glossary is
  - A. an 8 X 10 shiny picture.
  - B. a type of encyclopedia.
  - C. a dictionary for a specific book found in the back of that book.
  - D. a book of synonyms.
  
15. A dictionary is
  - A. a book of maps.
  - B. a book used to look up information.
  - C. a book used to look up word meanings.
  - D. a book of phone numbers.
  
16. A biography is
  - A. a list of sources used in a report.
  - B. a tale told from generation to generation.
  - C. a nonfiction book about a person.
  - D. a new pizza place.
  
17. A bibliography is a
  - A. list of sources used in research.
  - B. tale told from generation to generation
  - C. nonfiction book about a person.
  - D. new pizza place.
  
18. A non-fiction book is
  - A. a make-believe story.
  - B. a picture book of dragons.
  - C. a book of facts about one subject.
  - D. a chapter book.
  
19. When gathering important facts about a topic, you can take notes
  - A. on notecards.
  - B. on paper.
  - C. by drawing pictures.
  - D. all of the above.
  
20. To create a final presentation on your research you can
  - A. make a poster.
  - B. write a report.
  - C. create a PowerPoint presentation.
  - D. all of the above.

21. Before turning on your presentation, you
- A. should check for spelling errors.
  - B. should compare it to the directions.
  - C. both a and b.
  - D. do not need to do either a nor b.
22. When doing research, it is important to always use fiction books.
- A. True
  - B. False
23. When reading an article, information from charts, graphs, and pictures should be read.
- A. True
  - B. False

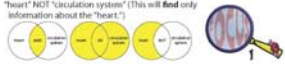
## APPENDIX G: FINDS RESEARCH ORGANIZER

**Focus** on the information need

- What did your teacher ask you to **find**? \_\_\_\_\_  
The teacher asked me to **find** out about \_\_\_\_\_  
This information can be found in a:  
 \_\_\_ book \_\_\_ encyclopedia \_\_\_ World Wide  
 \_\_\_ computer \_\_\_ magazine \_\_\_ Web page  
 \_\_\_ database \_\_\_ newspaper \_\_\_ other \_\_\_\_\_  
 \_\_\_ dictionary \_\_\_\_\_
- What question(s) do you need to **focus** on to **find** this?  
 \_\_\_ Who \_\_\_ Where \_\_\_ all \_\_\_\_\_  
 \_\_\_ What \_\_\_ How \_\_\_ other \_\_\_\_\_  
 \_\_\_ When \_\_\_ Why \_\_\_\_\_
- What kind of information do you need to **find** to answer the question(s)?  
 \_\_\_ copy of \_\_\_ copy of \_\_\_ printout of  
 \_\_\_ encyclopedia \_\_\_ newspaper \_\_\_ article  
 \_\_\_ page \_\_\_ page \_\_\_ printout of Web  
 \_\_\_ copy of \_\_\_ long article \_\_\_ page  
 \_\_\_ magazine \_\_\_ numbers \_\_\_ short article  
 \_\_\_ page \_\_\_ paragraph \_\_\_ other \_\_\_\_\_  
 \_\_\_ picture \_\_\_\_\_
- What are the key words you **focus** on in your search to **find** information?  
 (Remember the "key" word is any word that describes what you want to **find**. The key word may also be called a "subject" word. For example, if you want to **find** information about the heart, you "key" words, or phrases, could include "circulation system" and "heart".)  
 Key Word 1 \_\_\_\_\_ Key Word 2 \_\_\_\_\_  
 Key Word 3 \_\_\_\_\_ Key Word 4 \_\_\_\_\_

- In case these "key" words do not help you **find** what you need, what are some other words or terms you could **focus** on?  
 Other key words \_\_\_\_\_

- Search strategies (keywords and syntax) you might use:  
 Syntax = AND + OR NOT + "specific phrase"  
 With the example for heart, you might search for:  
 "heart" + "circulation system" (This will **find** information that includes both "heart" AND "circulation system.")  
 "heart" OR "circulation system" (This will **find** information that includes either "heart" OR "circulation system". This search will return MANY results because it will **find** all of the information on the "heart" AND all of the information on the "circulation system".)  
 "heart" NOT "circulation system" (This will **find** only information about the "heart".)



**Investigate** and explore resources to look for the answers to your questions

- What are the best sources of information to **investigate** and explore for your answers?  
 \_\_\_ almanac \_\_\_ globe \_\_\_ World Wide  
 \_\_\_ atlas \_\_\_ magazine \_\_\_ Web  
 \_\_\_ computer \_\_\_ article \_\_\_ other \_\_\_\_\_  
 \_\_\_ database \_\_\_ newspaper  
 \_\_\_ encyclopedia \_\_\_ other people  
 \_\_\_ article \_\_\_\_\_
- Where will you **investigate** and explore these sources?  
 \_\_\_ classroom \_\_\_ other people \_\_\_ another school  
 \_\_\_ library \_\_\_ library \_\_\_ library  
 \_\_\_ home library \_\_\_ public library \_\_\_ media center  
 \_\_\_ information \_\_\_ school library (SUNLINK)  
 \_\_\_ from your \_\_\_ media \_\_\_ World Wide  
 \_\_\_ teacher \_\_\_ center \_\_\_ Web  
 \_\_\_ online \_\_\_ other \_\_\_\_\_
- If you will be using the World Wide Web, what search engine(s) will you use to **investigate** and explore your information?  
 \_\_\_ ALA Great Web \_\_\_ FactMonster \_\_\_ KidsClick!  
 \_\_\_ Sites for Kids \_\_\_ Google \_\_\_ Yahoo!igans  
 \_\_\_ Ask Jeeves \_\_\_ HomeworkSpot \_\_\_ other \_\_\_\_\_  
 \_\_\_ CyberSleuth- \_\_\_ Kid's Search  
 \_\_\_ Kids \_\_\_ Tools \_\_\_\_\_
- What online database(s) will you use to **investigate** and explore your information?  
 \_\_\_ Biography \_\_\_ Grolier \_\_\_ NewsBank Kids  
 \_\_\_ Resource \_\_\_ Multimedia \_\_\_ Page  
 \_\_\_ Center \_\_\_ Encyclopedia \_\_\_ Student  
 \_\_\_ Britannica \_\_\_ Junior Reference \_\_\_ Resource  
 \_\_\_ Online School \_\_\_ Collection \_\_\_ Center  
 \_\_\_ Edition \_\_\_ Kids InfoBits \_\_\_ World Book  
 \_\_\_ Encyclopedia \_\_\_ Lands and \_\_\_ Online  
 \_\_\_ Americana \_\_\_ People \_\_\_ other \_\_\_\_\_



**Note** and evaluate facts

- How will you know if the information is correct? (Did you find the same information in two places?) up-to-date? (How recently was the information printed?) written by someone who knows the subject? (Why is this person an "expert" on your subject?)
- How will you keep track of the information you find?  
 \_\_\_ chart \_\_\_ note paper and notes  
 \_\_\_ database \_\_\_ outline  
 \_\_\_ digital camera \_\_\_ spreadsheet  
 \_\_\_ digital note cards \_\_\_ tape recorder  
 \_\_\_ drawings or graphs \_\_\_ video camera  
 \_\_\_ graphic organizer software \_\_\_ word processor  
 \_\_\_ (like Kidspiration) \_\_\_ other \_\_\_\_\_  
 \_\_\_ note cards \_\_\_\_\_
- When you find your information, you will need to **note** where you found it. Do you know what format your teacher wants you to **note** the sources you use?  
 \_\_\_ No (If your answer is no, please see your teacher or school library media specialist.)  
 \_\_\_ Yes (I know how I will note my sources.) I will note them in a:  
 \_\_\_ bibliography at the end of my report  
 \_\_\_ footnote on each page of my report  
 \_\_\_ reference list at the end of my report  
 \_\_\_ other \_\_\_\_\_
- Do you know what information to record for each source you use?  
 \_\_\_ No (If your answer is no, please see your teacher or school library media specialist.)  
 \_\_\_ Yes (I know how I will note my sources.) I will note the:  
 \_\_\_ name of the author \_\_\_ title of the book  
 \_\_\_ title of the article or Web \_\_\_ date the book was  
 \_\_\_ page \_\_\_ published  
 \_\_\_ title of the magazine or \_\_\_ name and place of the  
 \_\_\_ newspaper \_\_\_ book publisher  
 \_\_\_ date of the magazine or \_\_\_ URL (Web page address)  
 \_\_\_ newspaper \_\_\_ other \_\_\_\_\_  
 \_\_\_ volume/issue numbers  
 \_\_\_ of the magazine or  
 \_\_\_ newspaper  
 \_\_\_ page numbers of the  
 \_\_\_ article

**Develop** information into a presentation

- How will you present the information?  
 \_\_\_ bookmark \_\_\_ poem  
 \_\_\_ brochure \_\_\_ poster  
 \_\_\_ computer presentation \_\_\_ skit or play  
 \_\_\_ debate \_\_\_ speech  
 \_\_\_ display \_\_\_ timeline  
 \_\_\_ graph or chart \_\_\_ video or DVD  
 \_\_\_ multimedia show \_\_\_ Web page  
 \_\_\_ mural \_\_\_ Weblog  
 \_\_\_ music \_\_\_ written paper  
 \_\_\_ picture \_\_\_ other \_\_\_\_\_
- What do you need to prepare your presentation?  
 \_\_\_ computer \_\_\_ poster board  
 \_\_\_ computer software \_\_\_ scissors  
 \_\_\_ costumes \_\_\_ tape recorder  
 \_\_\_ crayons \_\_\_ video recorder  
 \_\_\_ paint \_\_\_ other \_\_\_\_\_  
 \_\_\_ paper \_\_\_\_\_



**Score** your presentation and your search

	Yes	No
1. Did you: find the answer to your question(s)? investigate your question with as many sources as possible? note the sources of information? develop your information into a presentation? score your presentation with a checklist or rubric? ask others to check your work to make it better? check your work to make sure it is complete and that all words are spelled correctly? use the proper format for your bibliography or footnotes? write the information in your own words and thoughts about the topic? (Do not copy the information.)		
2. Did you: learn about your topic? learn more about finding and using information?		
3. Are you: happy with the information you found? proud of your work?		
4. Is there anything that you would change the next time you are ready to use FINDS?		



Your Name: \_\_\_\_\_  
 Class Name: \_\_\_\_\_  
 Teacher's Name: \_\_\_\_\_  
 Today's Date: \_\_\_\_\_  
 Date this Assignment is Due: \_\_\_\_\_  
 Other Important Dates for this Research: \_\_\_\_\_

- Focus** on the information need
- Investigate** resources to look for an answer
- Note** and evaluate facts
- Develop** information into knowledge for presentation
- Score** presentation and search

**SUNLINK** 10/2006  
 Go to <http://www.sunlink.ucf.edu/finds/> for online tools that support FINDS!



APPENDIX H: FINDS SUNSHINE STATE STANDARDS

**FINDS**  
Third Grade

Third Grade	FINDS – A Research Process Model	SSS	AASL Standards
	The student will:		
<b>Focus on the information need</b>			
3.1.1 Identify area of inquiry, working in groups or individually.	3.1.1.1 Activate prior and background knowledge to select topic when appropriate, collaborating with others if working in group.	LA 3.6.2.1	AASL 1.1.2 AASL 1.1.9
	3.1.1.2 Narrow or broaden topic.	LA 3.6.2.1	
	3.1.1.3 Use brainstorming, webbing, or graphic organizers to write presearch questions.	LA 3.3.1.1 LA 3.6.2.1	AASL 1.1.3
	3.1.1.4 Define search terms (e.g., alternate terms, keywords).	LA 3.1.6.5 LA 3.6.2.1	
	3.1.1.5 Formulate a statement of purpose.	LA 3.3.2.1	AASL 1.2.5
3.1.2 Decide how much information is needed, working in groups or individually.	3.1.2.1 Recognize when there is a need for more than one source of information.	LA 3.6.2.1	AASL 1.2.3
	3.1.2.2 Identify possible sources of appropriate materials.	LA 3.6.2.1	AASL 1.1.4
3.1.3 Develop a search action plan and timeline, working in groups or individually.	3.1.3.1 Work individually or in cooperative group to contribute to a librarian/teacher-devised search action plan which lists: <ul style="list-style-type: none"> <li>• topic and subtopics;</li> <li>• keywords and alternate terms;</li> <li>• presearch questions;</li> <li>• possible information sources; and</li> <li>• people to provide assistance with research (e.g., teacher, parents, school and/or public librarian).</li> </ul>	LA 3.2.2.5 LA 3.6.2.1	AASL 1.1.1 AASL 1.1.3 AASL 1.1.4 AASL 1.1.9 AASL 1.3.4 AASL 1.4.2 AASL 1.4.4 AASL 2.1.5
	3.1.3.2 Understand online navigation procedures (e.g., buttons, toolbar, links, favorites or bookmarks).	LA 3.6.4.1 LA 3.6.4.2	AASL 1.1.8
<b>Investigate resources to search for answers</b>			
3.2.1 Locate collections such as fiction, nonfiction, reference, biography, nonprint, and e-resources, working in groups or individually.	3.2.1.1 Locate resources using a title, subject, or author search in the online public access catalog (OPAC).	LA 3.2.1.8 LA 3.2.2.5	AASL 1.1.8
	3.2.1.2 Retrieve fiction, nonfiction, and reference books from shelves using call numbers.	LA 3.2.1.8 LA 3.2.2.5	AASL 1.1.4
	3.2.1.3 Identify appropriate resources from various locations (e.g., school/public library, Internet).	LA 3.2.1.8	AASL 1.1.9

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	book store).	LA.3.2.2.5	AASL 1.2.2
	3.2.1.4 Use online resources (e.g., catalog, encyclopedias and preselected Internet sites) with assistance.	LA.3.6.4.1	AASL 1.1.8 AASL 1.4.2
3.2.2 Apply evaluative criteria to select the best resources to answer the search question, working in groups or individually.	3.2.2.1 Understand that the information need determines the resources selected (e.g., dictionary, encyclopedia, nonfiction, photograph).	LA.3.6.2.1 LA.3.6.2.2	AASL 1.1.5
	3.2.2.2 Begin to apply predetermined evaluative criteria for selecting resources (e.g., relevance, currency, readability).	LA.3.2.2.4 LA.3.6.2.2	AASL 1.1.4 AASL 1.1.5 AASL 1.2.4
	3.2.2.3 Begin to identify primary sources (e.g., letters, family photographs) and secondary sources (e.g., textbooks, biographies).		AASL 1.1.6 AASL 1.1.7
3.2.3 Demonstrate an understanding of how information is organized and located, working in groups or individually.	3.2.3.1 Recognize that reference information is organized in specific formats (e.g., dictionaries, encyclopedias, almanacs, atlases).	LA.3.6.1.1 LA.3.6.2.2	AASL 1.2.3
	3.2.3.2 Understand that resources may be organized according to type or format alphabetically, numerically, or topically.		AASL 2.2.1 AASL 4.3.2
	3.2.3.3 Use headings, captions, keywords, glossaries, tables of contents, and indexes.	LA.3.1.7.1 LA.3.2.2.1	
	3.2.3.4 Understand and begin to use the organizational structure of the library (e.g., Dewey Decimal System).		AASL 1.1.4 AASL 1.1.8
3.2.4 Exhibit responsible care and use of materials, e-resources, equipment, and facilities, working in groups or individually.	3.2.4.1 Follow procedures for circulation and timely return of materials.		AASL 1.3.3 AASL 3.1.6
	3.2.4.2 Exhibit responsible care in the use of materials, equipment, and facilities.		AASL 1.3.3 AASL 3.1.6
	3.2.4.3 Follow guidelines and etiquette in the use of electronic information sources.	LA.3.6.4.1	AASL 1.3.5 AASL 3.1.6
	3.2.4.4 Begin to demonstrate responsible use of Internet and other e-resources consistent with the school's Acceptable Use Policy.	LA.3.6.4.1	AASL 1.3.5 AASL 3.1.6
<b>Note and evaluate facts</b>			
3.3.1 Read, evaluate, and select information to answer search need, working in groups or individually.	3.3.1.1 Differentiate between fiction and nonfiction, fact and opinion.	LA.3.1.7.4 LA.3.6.3.1	AASL 1.1.4 AASL 4.3.2
	3.3.1.2 Predict outcomes, sequences, and events, as well as use visual and oral clues to interpret information.	LA.3.1.7.1	
	3.3.1.3 Use graphs, charts, tables, diagrams, maps, illustrations, photographs, and other visuals.	LA.3.1.7.1 LA.3.2.2.1	AASL 1.1.6
	3.3.1.4 Recognize that information is presented for a variety of purposes.	LA.3.2.2.4	AASL 3.3.1

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		LA.3.6.3.1	AASL 4.3.2
	3.3.1.5 Select relevant details (e.g., facts apply to topic) to answer questions.	LA.3.2.2.2 LA.3.4.2.2	AASL 1.1.7 AASL 2.4.1
	3.3.1.6 Use specialized resources (e.g., biographical resources, atlases, periodicals) in print, nonprint, or e-resource format.	LA.3.6.2.2	AASL 1.1.5 AASL 1.1.8
	3.3.1.7 Begin to identify author's perspective in ideas and information.	LA.3.1.7.2	AASL 1.1.7
3.3.2 Take notes and record data required for citations, working in groups or individually.	3.3.2.1 Compile notes using strategies such as graphic organizers or note cards.	LA.3.2.2.3 LA.3.4.2.2	AASL 1.3.3
	3.3.2.2 Begin to recognize intellectual property rights with librarian/teacher direction (e.g., taking notes in words and phrases only).	LA.3.6.2.4	AASL 1.3.1 AASL 1.4.2
	3.3.2.3 Record sources of materials used (e.g., author, title, publisher, or URL).	LA.3.6.2.4	AASL 1.3.3
3.3.3 Analyze information gathered and compare with research need, working in groups or individually.	3.3.3.1 Sequence information alphabetically, numerically, or categorically, as appropriate.	LA.3.3.1.3 LA.3.3.2.2	AASL 2.1.2
	3.3.3.2 Review notes and/or information for completeness.	LA.3.3.3.4	AASL 1.4.1
	3.3.3.3 Change and/or add new questions, if appropriate.	LA.3.3.3.4	AASL 1.2.5 AASL 4.2.3
	3.3.3.4 Search for additional facts, if needed.		AASL 1.2.6 AASL 1.2.7 AASL 2.2.1 AASL 4.2.3
<b>Develop</b> information into knowledge for presentation			
3.4.1 Select a presentation format appropriate for the topic, audience, and purpose, working in groups or individually.	3.4.1.1 Choose a presentation method from teacher or librarian choices.	LA.3.6.4.1 LA.3.6.4.2	AASL 1.4.2 AASL 4.1.8
	3.4.1.2 Begin to identify the strengths and weaknesses of presentation methods.	LA.3.6.4.1 LA.3.6.4.2	
3.4.2 Analyze and synthesize collected information, working in groups or individually.	3.4.2.1 Summarize and draw conclusions from information to develop product.	LA.3.3.5.1 LA.3.6.2.3	AASL 2.1.1 AASL 2.2.2 AASL 2.2.3
	3.4.2.2 Plan product by sequencing facts and ideas using an appropriate organizer (e.g., webbing).	LA.3.3.5.1 LA.3.6.2.3	AASL 2.1.2 AASL 2.1.3 AASL 2.2.2
3.4.3 Communicate information and ideas using a variety of formats and media, working in	3.4.3.1 Use the writing process, oral, or visual techniques to create products that express learning about a topic.	LA.3.3.5.1 LA.3.5.2.2 LA.3.6.2.3	AASL 1.3.4 AASL 2.1.6 AASL 2.2.4

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groups or individually.		LA.3.6.4.1 LA.3.6.4.2	AASL 3.1.1 AASL 3.1.3 AASL 3.1.4 AASL 3.2.1 AASL 3.3.4 AASL 3.3.5
	3.4.3.2 Show respect for creators by listing facts about sources used with librarian/teacher guidance (e.g., author's name, title).	LA.3.6.2.4	AASL 1.3.1 AASL 1.3.3 AASL 1.4.2 AASL 3.3.7
	3.4.3.3 Revise and edit the information product as needed.	LA.3.3.3.4	AASL 1.4.3 AASL 2.2.4 AASL 2.4.2
<b>Score presentation and search</b>			
3.5.1 Apply and develop evaluative criteria for information problem or product, working in groups or individually.	3.5.1.1 Use teacher or librarian generated criteria to evaluate success in answering search question.		AASL 1.4.2 AASL 1.4.3
	3.5.1.2 Use teacher or librarian generated criteria to evaluate information product.	LA.3.3.3.4	AASL 1.4.2 AASL 1.4.3
3.5.2 Reflect on the search process, noting strengths and weaknesses, working in groups or individually.	3.5.2.1 Reflect on search process during oral discussion.		AASL 1.4.1 AASL 2.4.2
3.5.3 Make recommendations for improving and applying process, working in groups or individually.	3.5.3.1 Explain the process used for inquiry-based learning and suggest ways for improvement.		AASL 1.4.1 AASL 2.4.2 AASL 2.4.4 AASL 3.1.3

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## APPENDIX I: STATE ACTIVITIES FOR MEDIA LESSONS

United States Pocket Atlas

Use the Table of Contents to find your assigned region.

How Many states are in that region? \_\_\_\_\_

Use the green fact box at the bottom of the page to answer the following question:

Which State has the largest population? \_\_\_\_\_

Look up your assigned state:

What is the capital? \_\_\_\_\_

Write 3 facts about your state:

## Almanac Scavenger Hunt

Use the United States Geography section which starts on page 132.

What is the nickname of your state?

Which state has the highest mountain?

Which state has the largest population?

Which state has the largest city?

Use the Encyclopedia to look up your state.

My State is

What is the state flower?

What is the state bird?

Write 3 facts about your state in your own words.



## APPENDIX J: ACHEIVEMENT SERIES

# Achievement Series

On-line and Paper-Based  
Formative Assessment

Assessment Solutions



DISTRICT ADMINISTRATORS, PRINCIPALS, AND TEACHERS ARE GIVEN THE DIFFICULT TASK OF BALANCING FEDERAL ACCOUNTABILITY REQUIREMENTS WITH THEIR TRUE GOAL OF MAXIMIZING STUDENT LEARNING. WHAT IS THE BEST WAY TO ENSURE YOU ARE MEETING NCLB MANDATES WHILE KEEPING THE FOCUS ON STUDENT ACHIEVEMENT? HOW DO YOU ADDRESS BOTH NEEDS GIVEN A FIXED NUMBER OF INSTRUCTIONAL HOURS IN THE CLASSROOM? A FORMATIVE ASSESSMENT SOLUTION FROM SCANTRON. SCANTRON OFFERS A COMPLETE TEST MANAGEMENT SOLUTION TO PROVIDE YOU THE IMMEDIATE RESULTS NEEDED TO ACHIEVE THESE TWO KEY GOALS – AND THE FLEXIBILITY TO DO IT IN A WAY THAT MATCHES YOUR SPECIFIC DISTRICT NEEDS:

### Develop Tests

- DATA-DRIVEN DECISION MAKING AND REPORTING AT THE ADMINISTRATOR LEVEL TO TRACK AND MEET FEDERAL MANDATES
- IMPROVED INSTRUCTION AT THE TEACHER LEVEL TO FOCUS ON INDIVIDUAL STUDENT NEEDS

1. Build Item Banks	2. Develop Tests	3. Administer Tests	4. View Reports
<b>Content neutral structure</b> <ul style="list-style-type: none"> <li>• Add your own questions</li> <li>• Use content from Scantron or from a familiar test or content publisher</li> <li>• Publish items from ExamView</li> </ul>	<b>District and Classroom Tests</b> <ul style="list-style-type: none"> <li>• Search Item Banks to find items for a test</li> <li>• Enter an answer key if you already have test booklets</li> <li>• Publish tests from ExamView</li> </ul>	<b>Three Delivery Options</b> <ul style="list-style-type: none"> <li>• Deploy online tests</li> <li>• Use imaging scanners and plain paper forms</li> <li>• Use Scantron OMR scanners and standard forms</li> </ul>	<b>Immediate Results</b> <ul style="list-style-type: none"> <li>• Aggregate and disaggregate data by selected criteria</li> <li>• Use results to better inform instruction</li> <li>• Link to instructional resources</li> </ul>

### Build Item Banks

Achievement Series allows districts to create an unlimited number of item banks to use for test generation.

- Store items in one centralized location.
- Collaborate on item development by sharing item banks within your district – and outside your district.
- Create true/false, multiple choice, multiple response, short response, grid-  
ded response, and extended response items.
- Publish question banks from ExamView Test Generator.
- Align items to your state standards.
- Track cumulative statistics for items.

### Examples of Available Item Banks

In addition to building your own items, Scantron offers a variety of commercial item banks.

- Scantron Item Bank
- ExamView Learning Series by FSCreations
- Progress Towards Standards by Measured Progress
- Hopkin Standard-Aligned Test Items (CA, GA, TX)
- FCAT Test Maker by Test Prep Systems (FL)
- Louisiana Item Bank by Scantron

### Develop Tests

Create district benchmark assessments and classroom tests.

- Use content from professional or self-created item banks to develop tests.
- Publish question banks from Exam-View Test Generator.
- Select individual items to add to the test – or have Achievement Series automatically select them for you
- based on particular state standards.
- Create a test based on a simple answer key if you already have printed test booklets.

### Administer Tests

Mix and match paper-based and online delivery methods to meet the needs of individual schools and classrooms within your district.

- Deliver tests online in those schools that have the technology infrastructure available.
- Use a cost-effective solution of off-the-shelf imaging scanners and customized forms printed on regular plain paper.
- Use Scantron's durable Optical Mark Reader scanners and traditional standard forms to mirror high-stakes tests.

### View Reports

Access real-time results in order to inform instruction and enable better decision-making.

- View online reports immediately after an online test is taken or forms are scanned.
- Access state standards-based reports for an individual student, class, school, district, and more.
- Analyze data by subgroups and demographics.
- Identify student strengths and needs in order to appropriately adjust instruction.
- Link to standards-based instructional resources, including netTrekker d.i. and Skills Connection Online.

#### MAKING A DIFFERENCE IN PENDERGAST SCHOOL DISTRICT (AZ)

"If you're teaching without assessment, you're just shooting in the dark," says Rick Baker, Academic Services Consultant for Pendergast. According to Baker, data collection for the district's previous assessment program worked well, but the district had trouble breaking the data down quickly enough to have an impact on instruction. "The teachers were putting a lot of work into gathering the data, but we couldn't turn it around fast enough for them to use in instructional decision making," Baker says.

In the fall of 2004, the district started using Achievement Series and has seen a drastic improvement in the assessment process. According to Rosanne Inserra, Assistant Superintendent for Academic Services, "The old reports were not easy to understand. With Achievement Series, the reports not only show connections to the standards, but also provide data that teachers can easily grasp and use right away – to help them adjust instruction, for example, or to design flexible skill groupings."



#### Part of a Complete Assessment Solution

Scantron's assessment solution helps educators meet NCLB requirements and raise the level of student achievement through a unique combination of standards-based formative assessment and computer-adaptive diagnostic testing. Scantron's solution combines a research-based, content-rich computer adaptive test known as Performance Series and a content-neutral, highly flexible testing product known as Achievement Series that educators use to develop and administer online and paper-based tests.

For more information, visit us at [www.scantron.com/k12](http://www.scantron.com/k12) or contact your Scantron K12 Software representative at 800-SCANTRON x7433 (722-6876 x7433) or e-mail [k12sales@scantron.com](mailto:k12sales@scantron.com).

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## APPENDIX K: ALMANAC ACTIVITY

Earth Science Page 105

What year was the deadliest earthquake?

Where was it? \_\_\_\_\_

How many deaths were a result of this earthquake? \_ \_ \_

What year was the deadliest volcano?

Where was it?

How many deaths were a result of this volcano?

**History** (U.S) Page 205

Find the place on the timeline that Astronauts first walked on the moon.

What year was it?

Who were the men that walked on the moon? \_\_\_\_\_

What was the name of the Spaceship

**Math** Page 250

Find the box that has medieval measurements. What was used to measure an inch? \_\_

What was used to measure a foot?

What was used to measure a yard?

**Just for fun** Use the index to look up some fun facts that interest you

APPENDIX L: FINDS FIVES RUBRIC

	A	B	C	D	E
1	<b>FIVES FINDS Project Presentation Rubric</b>				
2		0	1	2	3
3	<b>Focus</b>	No topic is apparent	Topic has no focus	Topic is broad	Topic is specific
4	<b>Investigate Resources</b>	No sources are used	Sources are not cited	One source is used	Two sources are used
5	<b>Note Evaluate Facts</b>	No questions are answered	Facts are unclear	Student copies from text	Student answers a question
6	<b>Develop Presentation</b>	No visual aids are used	Words are not included	Presentation is unorganized	Student uses a picture or photo
7	<b>Score</b>	Grade would be a U	Grade would be a D	Grade would be a C	Grade would be a B
8					

	F	G
1		
2	4	5
3	Topic focuses on a question	Topic focuses on multiple questions
4	Student Cites Sources	Educational Database is used
5	Student answers multiple questions	Student uses own words
6	Student uses 2-3 pictures or photos	Student uses multiple visual aids
7	Grade would be an A	Grade would be an A+
8		
9		
10		
11		
12		

APPENDIX M: INSTITUTIONAL REVIEW BOARD OUTCOME LETTER





University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Notice of Expedited Initial Review and Approval

From : **UCF Institutional Review Board**  
**FWA00000351, Exp. 10/8/11, IRB00001138**

To : **Karen Serrell, Penny Beile, Lea Witta**

Date : **December 08, 2008**

IRB Number: **SBE-08-05867**

Study Title: **Finders Keepers: A comparison of approaches to teaching the Florida research process FINDS model.**

Dear Researcher:

Your research protocol noted above was reviewed and approved by the majority of the IRB members present at the convened IRB meeting held on November 26, 2008. **The expiration date is November 25, 2009.** Having received the revisions, clarifications and/or acknowledgement of stipulations requested by the Board, you may now proceed with your research and begin enrolling participants and collecting data and/or specimens. Your research was determined to be minimal risk for human subjects according to the federal definition. **This study may be considered Expedited from this point forward and be reviewed as such for annual renewal.** The IRB has determined that the federally mandated criteria at 45 CFR 46, 45 CFR 164, and/or 21 CFR 50 & 56 for IRB approval of research have been met. The category for which this study qualifies as expeditable research is as follows:

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.

The IRB has approved a **consent procedure which requires parents to sign consent forms and for students to agree verbally to the assent process.** Use of the approved, stamped consent document(s) is required. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Subjects or their representatives must receive a copy of the consent form(s).

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

To continue this research beyond the expiration date, a Continuing Review Form must be submitted 2 – 4 weeks prior to the expiration date. Advise the IRB if you receive a subpoena for the release of this information, or if a breach of confidentiality occurs. Also report any unanticipated problems or serious adverse events (within 5 working days). Do not make changes to the protocol methodology or consent form before obtaining IRB approval. Changes can be submitted for IRB review using the Addendum/Modification Request Form. An Addendum/Modification Request Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at <http://iris.research.ucf.edu>.

**Failure to provide a continuing review report could lead to study suspension, a loss of funding and/or publication possibilities, or reporting of noncompliance to sponsors or funding agencies.** The IRB maintains the authority under 45 CFR 46.110(e) to observe or have a third party observe the consent process and the research.

On behalf of Tracy Dietz, Ph.D., UCF IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 12/08/2008 04:03:06 PM EST

APPENDIX N: ADDENDUM OUTCOME LETTER



University of Central Florida Institutional Review Board  
Office of Research & Commercialization  
12201 Research Parkway, Suite 501  
Orlando, Florida 32826-3246  
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276  
[www.research.ucf.edu/compliance/irb.html](http://www.research.ucf.edu/compliance/irb.html)

### Notice of Expedited Review and Approval of Requested Addendum/Modification Changes

From: **UCF Institutional Review Board**  
**FWA00000351, Exp. 10/8/11, IRB00001138**

To: **Karen K Serrell, David Boote, Lea Witta**

Date: **April 09, 2009**

IRB Number: **SBE-08-05867**

Study Title: **Finders Keepers: A comparison of approaches to teaching the Florida research process FINDS model**

Dear Researcher:

Your requested addendum/modification changes to your study noted above which were submitted to the IRB on 04/08/2009 were approved by **expedited** review on 4/8/2009.

Per federal regulations, 45 CFR 46.110, the expeditable modifications were determined to be minor changes in previously approved research during the period for which approval was authorized.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Subjects or their representatives must receive a copy of the consent form(s).

This addendum approval does NOT extend the IRB approval period or replace the Continuing Review form for renewal of the study.

On behalf of Tracy Dietz, Ph.D., IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 04/09/2009 11:40:25 AM EDT

A handwritten signature in cursive script that reads "Janice Turchin".

IRB Coordinator

Internal IRB Submission Reference Number: 005794

APPENDIX O: STUDENT INTERVIEW LESSON PLAN

<b>APPENDIX O Interview Questions Lesson Plan</b>
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<b>National Literacy Standard</b>	AASL 1.4.2, AASL 1.4.3, AASL 1.4.1, AASL 2.4.2, AASL 2.4.4, AASL 3.1.3	<b>GRADES K-5</b>
<b>Florida GLE</b>	<b>3.5.1</b> Apply and develop evaluative criteria for information problem or product, working in groups or individually. <b>3.5.1.1</b> Use teacher or librarian generated criteria to evaluate success in answering search question. <b>3.5.1.2</b> Use teacher of librarian generated criteria to evaluate information product LA. 3.3.3.4. <b>3.5.2</b> Reflect on the search process, noting strengths and weaknesses, working in groups or individually. <b>3.5.2.1</b> Reflect on search process during oral discussion. <b>3.5.3</b> Make recommendations for improving and applying process, working in groups or individually. <b>3.5.3.1</b> Explains the process used for inquiry-based learning and suggest ways for improvement.	
<b>Library Objective</b>	<b>Data collection for FINDERS KEEPERS study</b>	
<b>Title</b>	<i>Interviews</i>	
<b>Resources</b>	Signed informed consent letter, student and notebook and pen, FINDS rubric	
<b>Introduction</b>	Thank student for taking time to conduct interview.	
<b>Vocabulary</b>	Project, Database, FINDS model, Topic	
<b>Activity</b>	<ol style="list-style-type: none"> <li>1. How did you choose your topic?</li> <li>2. What sources did you use?</li> <li>3. Would you do anything differently next time?</li> <li>4. When using the Internet how did you know it was good information?</li> </ol> For direct instruction students change the questions to would instead of did.	
<b>Closure/ Evaluation</b>	Thank student for taking time to conduct interview.	

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