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# **Research Process with Primary Students**

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## Research Process with Primary Students

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## RESEARCH PROCESS WITH PRIMARY STUDENTS

A Graduate Research Paper
Submitted to the
Division of School Library Studies
Department of Curriculum and Instruction
In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts
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by Michelle Walker May 2010

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This Research Paper by: Michelle Walker

## **ABSTRACT**

The purpose of this study was to investigate whether there would be significant differences in the use of the research process between students who were instructed in its use by a teacher librarian and those who were not. This researcher gave two primary classes the same research assignment. One class was given instruction in using the Super3 Information Process Model by a teacher librarian and one class was not given this instruction. Data was collected from sixteen research papers that were then analyzed by the third grade teaching team using a rubric designed by this researcher. The results showed that it is beneficial to use the Super3 Information Process Model with instruction by a teacher librarian and the step of this research process that was shown to be most beneficial to primary students was the first step of planning.

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#### CHAPTER 1

#### INTRODUCTION

Using a research process model can help students who feel uncertain, confused, and frustrated when they start a research process to become more confident and focused as they move forward in the development of their research. The following section is a quote from an English language learner from Kuhlthau's (1998a) study with college students engaged in the research process. This student's engagement using a research process model has helped to ease some of the uncertainty of this student's research.

I had more exposure to research papers than most high school students. By working with [Kuhlthau] I learned not to panic if it does not all fall in together the first day you walk into the library. I had a lot of friends in college who were panicked at doing a research paper. I'll welcome a research paper any day, regardless of the subject. To tell the truth, I have not come across any of my peers who think like that, not a one. When my roommate's research paper was due last semester, I helped him with it. He does not even know what he is afraid of, afraid of not finding the one article that is going to make his paper? I will worry about a paper because things don't fall into place, but it is not the kind of thing I lost sleep over. I have learned to accept that this is the way it works. Tomorrow I will read this over and some parts will fall into place and some still will not. If not, I will talk to the professor. The mind does not take everything and put it into order automatically, and that is it. Understanding that is the biggest help (p. 282).

The student involved in the research scenario described by Kuhlthau (1988a) above has achieved a sense of comfort in her research through guided practice and research instruction using an information process model. These skills are also promoted in the *lowa School Library Program Guidelines: Libraries, Literacy and Learning for the 21st Century* (State Library of Iowa & Iowa Department of Education, 2007) that reinforces the responsibility of the teacher librarian to guide students in research that engages them in questioning, problem solving, and reflection. This research will investigate whether

students are able to effectively use the research process without instruction by a teacher librarian.

## Research Skills in the Standards

Library standards as well as reading and language arts standards place a strong emphasis on the importance of student research. One of the standards from the American Association of School Librarians (AASL) *Standards for the 21<sup>st</sup> Century Learner* (AASL, 2006) says, "Learners use skills, resources, and tools to develop and refine a range of questions to frame the search for new understanding" (p. 3). According to the National Council of Teachers of English (NCTE) and the International Reading Association (IRA) *Standards for English Language Arts*, students conduct research on issues and interests by generating ideas and questions and by posing problems. "They gather, evaluate and synthesize data from a variety of sources (e.g., print and nonprint texts, artifacts, people) to communicate their discoveries in ways that suit their purpose and audience" (NCTE & IRA, 2008).

According to Melanie (2007), the simplest explanation for why students use research skills is the need to find out about a specific topic. When practicing research skills, students usually use books, magazines, and the Internet. The purpose of doing research for primary students is to produce a project, write a report, or to conduct an experiment.

## Research Process Models

Teacher librarians provide expertise in research skills in the standards and in the use of research process models with students. There are many good models from which to choose.

Carol Kuhlthau (1994) developed one information search process using grounded theory research techniques in her study of students engaged in research. In Kuhlthau's Information Search Process (ISP), there are six stages when doing a research project: initiation, selection, exploration, formulation, collection and presentation. These steps could be reduced when dealing with primary students because many projects are assigned to these younger students beginning with exploration.

During the stage of exploring information, students locate relevant information and then read to become more informed on their topic so a focus can be found. At this point students should be taught to make lists of interesting facts and ideas and make bibliographic citations (Kuhlthau, 1994).

The formulation stage is when the students determine the focus based on the information found in the exploration phase. It is possible that many lists will have been made in order to find a focus. This is the time to decide which way to go or even combine several themes to form one focus. Students should be feeling more confident at this stage as understanding increases (Kuhlthau, 1994).

In the collection stage, students gather information that helps to define, extend and support the focus. During this stage students may want to ask for help from the teacher librarian to find many types of materials from which to gather information (Kuhlthau, 1994).

The last stage in ISP is presentation. This is the stage in which students conclude their search for information. During this stage students may recheck sources, confirm information and bibliography citations, organize notes, make an outline, and lastly complete the information search (Kuhlthau, 1994).

Teacher librarians need to be aware of any uncertainty that students show about a topic or question and be prepared to help students deal with their frustrations

There are certain times in the inquiry process when students cannot move ahead or can move ahead only with great difficulty; these are the times when they are most in need of assistance and most open to instruction. At these times the instructional team has an opportunity to guide the inquiry for engaging, lasting, and deep learning. (Kuhlthau, 2007, p. 27)

There are five roles that a teacher librarian can play to help students when they need assistance: organizer, locator, identifier, advisor, and counselor. The organizer really has no direct intervention, just provides access to resources. As a locator the teacher librarian offers help with a single fact or a single source. The identifier does a subject search and then a group of resources are identified. As an advisor sources are recommended in a particular order of use. Lastly, as the counselor, process intervention strategies will be introduced that leads to strategy, sources, and sequence (Kuhlthau, 2001).

The Big6 is another information problem-solving strategy students may use to manage any problem, assignment, decision or task. There are six stages: task definition, information seeking strategies, location and access, use of information, synthesis, and evaluation. These stages do not have to be completed in this order, and each stage does not require a set amount of time. Big6 co-creator Robert E. Berkowitz (1997) developed an approach to problem solving.

Certainly, among the elements of successful approach to teaching and learning are: performing, evaluation, and feedback. When library media specialists and teachers are able to measure student performance systematically, based on established criteria, and communicate the results to students within the context of the information problem-solving (The Big6 Skills) approach, they can enhance the quality of the learning process. (p. 23)

The first two stages of the Big6 involve planning. In these stages students define the information problem, identify information needed, determine all possible sources, and then select all the best sources. The next stages are location and retrieval of information from sources. Lastly the information is organized and the whole project is evaluated.

Another approach is Ann Irving's (1985) Nine Step Information Skills Model that includes formulating, identifying, tracing, examining, using, recording, interpreting, shaping, and evaluating. She was one of the first to identify the need for essential information skills needed for students and to note that these skills are the responsibility of both classroom teachers and teacher librarians. Irving also knew that these skills must be taught across the curriculum (Irving, 1985).

The Handy 5 is another research process that uses five steps: assignment, plan of action, doing the job, product evaluation, and process evaluation. This model breaks these steps into a child friendly approach: "What am I supposed to do?," "How do I get the job done?," "Let's do the job!," "What do I have to show for it?," and "How well did I do?" (Losey, 2007, p. 21).

In the first stage of this model, students need to be sure they understand the assignment. This is a great time for teachers to assess prior knowledge by informally assessing each student by asking him or her to repeat the assignment given. The second stage is the plan of action stage where types of resources and where to find them needs to be discussed. The third stage is doing the job. In this stage students work out their plan of action. The fourth step may come in many different forms, depending on the assignment; it may be either a written or an oral report or a demonstration. The final step is evaluation of how well the assignment went (Losey, 2007).

There is also a process called the I-Search process that has five steps for children to follow when doing research: "What do I want to know?," "Where can I find the answers?," "How will I record the information that I find?," "How will I show what I learned?," and "How will I know I did a good job?" (Duncan & Lockhart, 2000, p. 3).

Again, this process is very similar to the others in that students choose the topic and develop questions, find sources and experts, take notes and cite sources and do the search, write the paper, and develop and present the project. It ends with final assessment and evaluation. This model also uses a lot of guided practice with the students (Duncan & Lockhart, 2000).

A process model for students in grades kindergarten through third is the Super3 (Eisenberg & Robinson, 2007) that was developed by one of the same authors as the Big6 approach. This model is very simple for the youngest learners with only three steps: plan, do and review; it is explained just like a story that has a beginning, a middle, and an end (Eisenberg & Robinson, 2007, p. 2).

For older students, the Big6 is a process that may be easily remembered, but for lower elementary students, a simpler version of the Big6 is called the Super3. The three steps of the Super3 are plan, do, and review. These steps contain the same basic elements as the Big6, but the language and the concepts are a little simpler and easier for younger students to understand. Before students start working on an assignment they plan by thinking about what a successfully completed project would look like and what learning needs to take place in order to do the job. In the do stage, the students collect information needed and put together a finished product. Before turning the project in, students review the final project to see if it is done the way it was assigned and decide if anything else is

needed before it is turned in.

Using the Super3 steps of plan, do, and review may help young students begin to remember and use an information problem-solving process. Joyce Needham (2002) uses both the Super3 and the Big6 with students at different grade levels.

Utilizing the natural questions of students can provide opportunities for students to practice information problem-solving using the Super3 process. Once students advance to third grade, they're ready to progress from the Super3's Plan, Do, Review and to use WWW.USE in a Big6 context. Students are never too young to solve information problems, and the sooner they learn the Super3 and Big6 processes, the more efficient they'll become as problem solvers. (p. 21)

The Big6 Research Process Model is widely used in schools. A significant number of books published by Eisenberg and Berkowitz and associates are available from library publishers. The prevalence of print and online materials about the model, including the frequent postings of lessons using the model from practicing teacher librarians, demonstrates the popularity of the Big6 model and its relative, the Super3. (Eisenberg & Berkowitz, 2006; Eisenberg & Robinson, 2003; Eisenberg & Robinson, 2007; Eisenberg, Berkowitz, Jansen & Little, 1999; Jansen, 2007; Kasowitz, 2000; Murray, 2007; Needham, 2008).

According to Wolf, Brush, and Saye (2003) there are many anecdotal records that demonstrate the high use of the Big6, but more research is needed on this research process model to show how effective it may be. Wolfe et al. state, "such models, maps, and organizers should continue to be tested among many groups of learners to determine the full range of their value for giving the student greater confidence and understanding of the complexities involved in information problem-solving" (p. 1).

#### Problem Statement

Primary students may not be able to effectively use the research process without instruction by a teacher librarian.

## Purpose Statement

This research will investigate whether or not primary students are able to effectively use the research process without instruction by a teacher librarian.

## Hypotheses

- The two primary classes that are given research assignments will show a
  significant difference in organization of information when one class is given
  instruction in using the Super3 Information Process Model by a teacher librarian
  and one class is not given this instruction.
- 2. The two primary classes that are given research assignments will show a significant difference in quality of information when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction.
- 3. The two primary classes that are given research assignments will show a significant difference in ideas and research questions when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction.
- 4. The two primary classes that are given research assignments will show a significant difference in focus on assigned topic when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction.

## **Definitions**

<u>Graphic Organizers</u> – offer visual models that equip teachers and students with tools, concepts, and language to organize, understand, and apply information (Gallavan & Kottler, 2007).

<u>Inquiry</u> – "is an approach to learning whereby students find and use a variety of sources of information and ideas to increase their understanding of a problem, topic or issue. It requires more of them than simply answering questions or getting a right answer. It espouses investigation, exploration, search, quest, research, pursuit, and study" (Kuhlthau, 2007, p. 9).

Research – "a methodical inquiry or investigation into a subject matter in order to discover facts or principles and generate new ideas" (Lim, Dallimore, & Laosirihongthong, 2003, p. 70).

<u>Standards</u> - are clearly defined statements and/or illustrations of what all students, teachers, schools and school districts are expected to know and be able to do (Ohio Department of Education, 2008).

<u>Super3</u> – "an information problem solving process that helps students to develop the skills and understanding they need to find, process, and use information effectively and efficiently" (Robinson, 2008, p. 11).

<u>Teacher librarian</u> – "a teacher that helps students acquire skill in locating, interpreting, using, evaluating, creating and communicating information and also a librarian that involves planning for school library collections, technology, schedules and staff to assure the best possible access to resources and services for students and teachers in a positive, dynamic learning environment" (*Iowa School Library Program Guidelines: Libraries*,

Literacy and Learning for the 21st Century, 2007, p. 4).

## Assumptions

This researcher assumes that, prior to this study, the participants have had limited, if any, instruction about how to plan a research report. It is also assumed that each classroom has the same mixture of students with varying academic and ability levels.

## Limitations

This study will be limited to two sections of approximately 25 third grade students in one suburban elementary school. The researcher will also be limited to the study of the practice of one teacher librarian. The groups will be two separate third grade classrooms that the researcher teaches weekly in her role as their teacher librarian. The majority of the students are the same students the researcher taught in second grade.

## Significance

The current information rich society is overwhelming for young students engaged in a research project. With the help of teacher librarians and information process models and instruction, students should be able to plan reports more effectively and learn to weed through all of the information in order to create a report of which they may be proud.

#### CHAPTER 2

#### REVIEW OF RELATED LITERATURE

This research about young students' ability to use a research process model begins with this literature review on the student research process and concludes with the effectiveness of information search process instruction. Numerous studies have contributed to the understanding of students' information search process.

#### The Research Process

Dreher (2000), Johnson (1999), Kihn (n.d.), Kuhlthau (2007), Morse and Nottage (1992), Schwartz (2008), Shaw (n.d.), and Stripling and Pitts (1988) are researchers who agree that a research process is important for students. These researchers emphasize multiple stages in the research process and the importance of guiding students. There are multiple common stages that experts agree are important such as planning, topic selection, setting goals, gathering information, note taking, organizing information, and reviewing goals. Some experts have designed research models, in connection with the consensus that a research process helps to guide students when doing their own research projects.

A starting point in any research is the planning stage. Teaching children to start by understanding the research purpose, looking for ideas, and then identifying possible books, magazine articles, videos, or Internet sites that might be available on these topics is all part of planning. According to Schwartz (2008), teacher librarians as well as classroom teachers want to see how well students can conduct research, organize, and then communicate it clearly in a written report. Dreher (2000) knows that planning takes a lot of problem solving.

Students need to learn creative and multifaceted approaches to research and inquiry. The ability to identify good topics, to gather information, and to evaluate, assemble, and interpret findings from among the many general and specialized information sources now available to them is one of the most vital skills that students can acquire. (p. 39)

No matter how rough the plan is, it is that plan that makes the research come together. According to Booth, Colomb, & Williams (2003) students need to make a plan prior to beginning to write. This plan might simply be a short outline, but it will guide students through the project when they get confused.

Shaw (n.d.) concurs that planning is important. The first step in the planning process of a research report is understanding the assignment. If a student does not understand what the teacher wants him or her to research, then he or she needs to be guided in asking questions of the teacher. The student should write down when this is understood by writing questions about the topic that interest him or her.

Kihn (n.d.) notes that breaking the research process down into small lesson plans will make it easier for students to learn each step in the process of writing research reports. Kihn also notes that keeping it simple will make it easier for young students to understand this process. Kihn suggests that students may begin by interviewing a partner about his or her favorite topic, something about which he or she is passionate. After this interview students write how they chose a topic that is very interesting to them.

Schwartz (2008) warns that young students should not focus too quickly on the end product because they may miss some of the important research steps and write a paper that does not show an understanding of the topic. Teacher librarians should introduce students to the concept of taking notes about the topic which they intend to do their research and also how they plan to do the research. If students consider the process they

will use, it will help them to focus on how to produce the end product they desire.

In order to get students to think about possible topics, teacher librarians should guide them to browse through books, encyclopedias, and journals. They should also scan the table of contents, chapter headings, and subheadings to get an overview of the topic they are exploring. This process will give students some ideas to think about while they are getting ready to choose a topic (Schwartz, 2008).

Doug Johnson (1999) agrees that projects need to be broken down for all those involved in research, "Large projects can be overwhelming even for adults, but planning smaller steps, building timelines, creating frequent deadlines, and scheduling multiple conferences turn complexity into manageability" (p. 4).

Stripling and Pitts (1988) also stress that planning is an essential step for any process a student undertakes. This step helps students to focus on a topic and set goals for their research. They suggest the student should outline the steps to be taken in the planning stage and decide what types of information need to be gathered. The planning process will make students think about their research and help them look forward, instead of backward, to devise a plan for the upcoming research.

Morse and Nottage (1992) offer insight about the specificity of student research. They stress that teacher librarians need to make sure that students' topics are neither too broad nor too narrow. Students could get easily frustrated if the topic chosen requires too much research time because there is too much on that particular topic. If there is not enough information to gather on the chosen topic, then even more frustration may arise.

Whether students are assigned a topic or select one on their own, they need to find something that sparks their interest so that when working on their research paper, they

will be more stimulated and more committed to their work. Choosing an appealing topic will make the end paper more enjoyable to the reader (University of Victoria, 1995).

Schwartz (2008) believes as students are browsing possible topics, they should be taught to write down questions they have. This will give them a list of ideas with which to start and show some things that interest them. They can use these questions to build upon experience or knowledge they may already have or to build upon what they are learning in their classrooms.

According to Kihn (n.d.) the teacher librarian will need to make sure students have chosen a topic that enriches or supports a specific interest of theirs. Students should decide on a topic that really interests them and that can be supported by appropriate resources. Students begin to write what they already know about their topic and what they would like to know. When this list is complete the students can be taught how to research for their chosen topic in the library.

Schwartz (2008) encourages students to brainstorm with others in their class to get reactions to the ideas they have come up with thus far. Teacher librarians should set aside some time to let students discuss ideas with them too. Family members should be encouraged to help as well. Other people may give the students a different perspective or something they say may trigger a new idea for students.

Morse and Nottage (1992) recommend students set goals before gathering the information needed to report on the chosen topic. They need a clear idea of what information they are seeking. The goal setting process puts all of the research steps in place before research begins.

When students are gathering information in books and the Internet, they need to

record their sources. Schwartz (2008) believes teacher librarians should do a lesson on how to record the sources used in a simple bibliography. There is also a lesson to be learned on how to organize information and use it in the research paper.

Shaw (n.d.) believes students need to be told that gathering information on the Internet may seem easy, but it is not the best thing to do. Some information on the World Wide Web is wrong and misleading, so this cannot be the only source that students use.

Shaw (n.d.) has found a few primary sources from which students can gather information: diaries, journals, speeches, interviews, letters, memoirs, autobiographies, and records such as births, deaths, and marriages. Using Photographs, video and audio recordings would also be a great source for gathering information.

Kihn (n.d.) suggests that teaching students to take notes in a two-column method will help them with the planning of their report. Students will fold a piece of paper in half so that in one column a quote or an interesting fact can be written, then on the second column a personal response can be written. Students should be encouraged to tell why this information is interesting or if they agree or disagree. Kihn recommends this process of researching information in books and recording information in their journals.

Stripling and Pitts (1988) believe that when students learn the research process, they examine the entire project and look toward the final goal of the completed project. This will also help students to focus on the information needed and to communicate that information. Teaching students planning strategies will help them to divide a large task into workable parts. Teacher librarians can help students set a daily goal so they can see accomplishments in their research process.

According to Kihn (n.d.), reading for information must also be taught when doing a

research project. Many primary children have not learned how to find information that is useful to them from reading materials. This would be a good time to teach how to write a school approved bibliography so that when children are planning their research, they will know to record their sources.

Kihn (n.d.) also recommends that students work with partners to choose three to five categories into which they can divide their papers. These categories are labeled on their note cards with pictures or symbols to represent the category. Teacher librarians teach this step by labeling the note card in the upper right hand corner with the symbol. The middle of the card has a quote or the main idea from their research text. On the bottom of the card, students will write the name of the book and the page number from where this information came.

Kihn (n.d.) believes that to bring all of these ideas together, students should use poster board to draw pictures and use phrases to describe what they have learned. This will put the students' work in a form where they can see all of the information and how it flows together.

Shaw (n.d.) finds that using a mapping technique also helps students to organize their information. To create a map, the students write the main idea, either a word or phrase, in the center of the page. Items related to the main idea are branched out from the central idea.

According to Morse and Nottage (1992), these organizational techniques should help students avoid writing their research reports in the order that they found the information source by source. Students need to learn to integrate what they have learned to write a coherent paper.

Morse and Nottage (1992) note that as part of the research process, students will also need to be taught how not to plagiarize. A teacher librarian should explain that using other authors' words and ideas in their own writing without giving them credit is plagiarism. By using a note card system as described above, the students should learn the appropriate use of information.

Finally, Morse and Nottage (1992) believe the last step before taking all of the information learned and turning it into a report is to review the goals prior to research. Students need to see if their research process has been satisfactory or if they must do more research to write an exceptional paper. Doug Johnson (1999) believes research needs to have a personal connection to each student.

Research must matter. The research needs to be important to the researcher. If it isn't, students will go through the motions. And Johnson's First Law of School Work will kick in: A job not worth doing is not worth doing well. One of the best things we as teachers and media specialists can do is work very hard to make sure research projects are well designed and intrinsically motivating. (p. 6)

Research about the Effectiveness of Information Search Process Instruction

Carol Kuhlthau's (1985) study began her lifelong commitment to studies on

students' processes for learning and the information search process. Research showed

that students commonly start out thinking that their research will have one right answer

that will lead to one perfect project. It is hard for them to use research to make their own
learning.

Kuhlthau (1985) tracked 24 high school seniors in advanced placement English classes during one school year while they wrote two research papers. The purpose of this study was to find the problems students encounter in the search process. Data was collected from the students' journals, short pieces of writing, observations, interviews,

timelines, flowcharts, and questionnaires.

Stages of feelings, thoughts and actions were tracked as the students went through the following stages: task initiation, topic selection, prefocus exploration, focus formulation, information collection, and search closure. Kuhlthau's (1985) findings were that the first stage produced feelings of uncertainty and apprehension. The second stage brought feelings of optimism after the topic was chosen. The third stage was when confusion and frustration set in and those feelings remained there until a focus was found.

The fourth stage, focus formulation, was when students showed more confidence because of learning about their topic and have a more personal point of view, which leads into the fifth stage, information collection. The sixth stage, search closure, a feeling of relief was seen, but along with that comes more anxiety. This anxiety was brought about by the impending presentation that was to be done at the end of this process. After the presentation was over, however, most students felt satisfied and had a feeling of success. If things did not go well, students were disappointed in themselves (Kuhlthau, 1985).

Kuhlthau (1988b) did a second study with 20 of the original 24 students after four years of college. She used the same questionnaire and compared the responses through t Tests. The findings in this study showed that the students matched the model mentioned above more closely than they did at the time of her original study. In college these students expected a topic to change and a theme to develop quickly during their information search. They also expected to become more interested in the chosen topic.

The third study that Kuhlthau completed included 4 of the original 24 participants from her earlier study. These students were interviewed after four years of undergraduate study to find out their perceptions on the information search process. This data was

compared with the high school studies and found that the students had a sense of ownership in the process and had a feeling of expertise after college. The focus seemed to change with these students in stages three through five, exploration, formulation and collection. They felt the information search process was "purposeful" where they were actively finding answers to questions (Kuhlthau, 1988a).

There was a fourth study done to confirm Kuhlthau's model and to ask three questions: "Do other high achievers experience a process similar to those in the initial sample?," "Do low- and middle-level students experience a similar process?," "Does the search process relate to teachers' assessment of the product?." In this study 147 high school seniors in six high schools were identified as low, medium, or high achievers.

They were all given four weeks to complete a research paper. A Process Survey was used to ask thoughts and feelings at three points during the four weeks. Some of the questions asked were: "On the scale below indicate your confidence level at this point in the project," "From the adjectives below, check those that describe how you feel at this point in the project," and "What are you thinking now? Check as many boxes as apply to you" (p. 244).

Teachers graded papers on presence of focus and number of sources used. Findings showed that confidence increased as the process went on and feelings of confusion turned into confidence and finally relief. The data from the 40 participants identified as low achievers were incomplete and could not be analyzed in the study. There was no significant difference between the high and middle achievers, except that the higher achieving students received higher grades. "These students described the information search process as a purposeful, sense-making process in which they were actively seeking

a thread, a story, an answer to questions, or focusing and narrowing." (Kuhlthau, 1989, p. 244).

A fifth study was done to verify all the findings of the previous studies on Kuhlthau's model. This study was done on 385 library users from 21 school, college, and public libraries. Before this study was done, Kulthau's research had only been with high school students and a small number of college students. The question of whether there are similar patterns in the process of users in other types of libraries had not been answered.

The same Process Survey was used as in the fourth study. The survey found that the same types of thoughts and feelings were felt by the school library users. However the public library users were more confident at the beginning, while the college students were more confident at the end of the research process than the high school students. Analysis was made first by descriptive statistics and next by inferential statistics, including measures of significant difference and analysis of variance in Paired t Tests, Chi Square, ANOVA, and Scheffe tests (Kuhlthau, Turock, George, & Belvin, 1990).

An important finding in this study was that while participants' thoughts and feelings matched the model as anticipated, their identification of task did not. According to the model, initiation tasks would be to recognize information need and to identify general topic; midpoint tasks would be to investigate information on the general topic and to formulate a specific focus; closure tasks would be to gather information pertaining to the specific focus and to complete the information search. Participants, however, reported their task as "to gather" at initiation, "to gather" and "to complete" at midpoint, and "to complete" at closure. (Kuhlthau, Turock, George, & Belvin, 1990, p. 22)

These studies show that a process approach to research should be used in all K-12 schools. Students need to understand that there is a way to search for information and how to learn from this information. When the feelings about research projects are

known, then students as well as their teachers will understand that these reactions are normal and they can keep working on their topics without the feeling of guilt.

## Summary

Students learn in a number of different ways, but it is important to teach them a process of how to learn or discover information. Carol Kuhlthau explains that with a process students will have a focus of where they are heading with their research.

Students should be expected to go beyond basic documentation of telling what they have located and where it was found to presenting their own narrative about what they learned. They need to develop confidence in their own interpretations and be encouraged in their original creations, no matter how seemingly simple or rudimentary. (Kuhlthau, 1997, p. 724)

Carol Kulthau (1994) found that the information search process occurs in a series of stages. Students felt uncertain, confused, and frustrated when they started the research process. As the process moved forward, students felt more confident and more focused. When students moved from an unclear topic to a more narrowed one, not all could clearly express their topic during different stages in the research process.

Carol Kulthau recognized students need to know how to learn from the information that is found during the research process. Each of these studies show students would benefit from a research process where small group instruction is given to evaluate students' needs.

Wolf et al. (2003) concurs with Kulthau that a process such as the Big6 should be used by students. They found that students draw connections between research and thinking, between what is occurring in other classes, and between the assignment given and the product produced.

Big6 and other models that provide a systematic guide for information problem solving seem to provide the elements for mental modeling so necessary in helping

the novice construct a method to meet the information use tasks placed before him or her. These models appear to help students visualize the series of tasks that at first are not understood or seemingly connected. Such models may be powerful in construction of mental images to manage tasks that at first did not seem possible to accomplish. (p.10)

## CHAPTER 3

#### METHODOLOGY

Primary students may not be able to effectively use the research process without instruction by teacher librarians. Dreher (2000), Johnson (1999), Kihn (n.d.), Kuhlthau (2007), Morse and Nottage (1992), Schwartz (2008), Shaw (n.d.), and Stripling and Pitts (1988) are researchers who agree that students need to be guided through the multiple stages of any research process. This study focused on elementary students using the Super3 research process model.

The Super3 teaches students to plan, do and review (Eisenberg & Robinson, 2007). Students who learn how to think critically about tasks using these three simple steps will have increased success on school assignments as well as on state standardized tests. Students received instruction based on needs in small groups to meet individual needs. Third graders at Starry Elementary School, Marion, Iowa, had not previously been taught any type of research process. Hypotheses tested included whether or not a significant difference occurred when one class was given instruction by the teacher librarian in the research process prior to completing a project.

## Research Design

The research design chosen for this study was quasi-experimental research. This researcher used two intact classes for the research because forming artificial groups is not permitted for research purposes in this school. Randomly assigning groups from the third grade classes would disrupt classroom learning. Choosing to do a quasi-experimental research design supports the research purpose to determine the effect of teaching a

research process. "In an experiment, you test an idea to determine whether it influences an outcome" (Creswell, 2008, p. 332).

The rubric designed by this researcher sets criteria so that teachers are able to assess information literacy skills. One purpose in teaching information literacy is to improve student achievement. Through repeated practice of information literacy skills, students will gain the necessary tools to form a foundation for lifelong learning.

Although much of this research has been done with older students, the Super3 is an adaptation of the same information literacy concepts that have been researched for older students.

The first category in the rubric used is organization, which is taught in the Super3 "do" stage. The Big6 calls this stage "synthesis" where information is organized from multiple sources. As stated by Morse and Nottage (1992), using organizational techniques should help students avoid writing their research reports in the order that they found the information source by source. Students need to learn to integrate what they have learned to write a coherent paper.

The second category in the rubric is quality of information, which is also taught in the Super3 "do" stage. The Big6 calls this stage the "location and access" stage.

According to Kuhlthau (1994) students gather information that helps to define, extend and support the focus. If the information is from a high quality source it will clearly relate to the main topic. No matter the amount or the quality of the information gathered, the problem is not solved or the topic understood until the information has been interpreted. Personal understanding develops through extending and defining a topic by using the information found.

The third category in the rubric is ideas and research questions, which is the planning stage of the Super3 and the "task definition" stage of the Big6. The research process will come together when students have creative questions to pursue. According to Booth, Colomb, & Williams (2003), students need to make a plan prior to beginning to write. This plan might simply be a short outline, but it will guide students through the project when they get confused.

The last category on the rubric is focus on assigned topic, which is where students determine if the product created did its purpose by helping the reader to understand more about the topic. Focus on assigned topic is where students enter the final stage of "review" in the Super3 and in the "evaluation" stage in the Big6. According to NCTE & IRA (2008) Students gather, evaluate and synthesize data from a variety of sources (to communicate their discoveries in ways that suit their purpose and audience.)

## **Population**

The population used in this research was third graders from two classrooms from Starry Elementary School, Marion, Iowa. The classes were similar in academic abilities, gender, and race. Having equity of groups removes potential threats to validity of the scores (Creswell, 2008, p. 332). To the best of this researcher's knowledge, these students had never had any type of research process instruction. One classroom was the experimental group and another class was the control group. The experimental group (Group A) received guided inquiry instruction using the Super3 strategies. The control group (Group B) did not receive any of this instruction until after this study was completed.

In the end students from each group in both classes had the same type of research instruction. No class was denied anything that would put them behind as lifelong learners. No students' grade was affected by this research. All five of the third grade classes at Starry received the same research instruction, but only two of the third grade classes were involved in this study.

#### Procedure

The first step that this researcher took was to submit a University Human Subject Participants Review application form. Once the research was approved, the researcher chose a third grade classroom to be the control group and another third grade classroom to be the experimental group. Signed consent forms were also received for all participants.

All instruction, directions, and teacher evaluating methods were pretested with a separate third grade class in order to determine the validity of the experimental design and documentation. Modifications were made before the experimental group was given this instruction.

The experimental group involved was given instruction in the library for eight thirty-minute lessons. The teacher librarian delivered the instruction with no assistance from the classroom teacher. Each student was assigned a partner to work with by the classroom teachers. The pairs then chose an African American to study. A total of eight students in each class completed the research assignment.

The control group met for the same amount of time, but with limited instruction on the research process. The control group was only told to write a report on an African American for Black History Month. The experimental group was told to research the

same African Americans and had instruction about how to use the research process.

Lessons were adapted from COMPanion Corporation Pre K- 2nd Grade Level Lessons

Plans and Forms for Teaching the Super3 (2003).

The first category on the rubric pertained to organization; the teachers had to determine if paragraphs were well constructed and organized. The quality of information was established by whether the information in the paper related to the topic and had supporting details. For the third category, ideas and research questions, teachers had to decide if students had creative questions that were pursued. Finally in the fourth category of the rubric, focus on assigned topic, teachers decided if the report related to the original assignment of reporting on an African American for Black History Month.

This researcher met with the third grade teachers together to explain the scoring of the rubrics. The process of the Super3 was explained to the scorers at that time, as was the assignment. Each category on the rubric was correlated to the Super3 process so that the teachers could see the validity of the rubric and understand the scoring method.

Samples of a high scoring paper and a low scoring paper developed by this researcher were given to teachers as examples to guide scoring. The researcher explained the sample papers to the third grade teachers, and checked their understanding about whether a student paper showed evidence or not of each of the four categories.

The research projects from both classes were blind graded by the third grade teaching team using a rubric that the researcher created (Appendix A). Each teacher independently read each research report and determined how to score each category. At no time were students shown the scores their papers received.

The third grade teaching team blind scored all sixteen-research reports. Each paper

could receive sixteen points, with two separate rubrics used for each paper for a total of thirty-two possible points. With eight reports in each group, there was a total of 256 points to potentially be achieved by each group.

## Data Analysis

Each category on the African American Research Rubric was analyzed for organization, quality of information, ideas and research questions, and focus on assigned topic. Four points was the highest score to earn in all categories; one point was the lowest.

After the teachers scored the projects, this researcher analyzed the scores in order to determine the effect of instruction on the outcome of the projects. Experimental Group A and Control Group B were compared to determine whether either group exhibited greater frequencies of performance in the four categories assessed y teachers using the rubric. T-tests were used to analyze the dependent performance variables against the independent variable instruction. The level of significance adopted was p < .05.

#### **CHAPTER 4**

## DATA ANALYSIS

This study was limited to two sections of approximately 25 third grade students in one suburban elementary school, and limited to the practice of one teacher librarian. The participating groups were two separate third grade classrooms that the researcher teaches weekly in her role as their teacher librarian. The majority of the students are the same students the researcher taught in second grade. The experimental group (Group A) received instruction using the Super3 research process; the control group (Group B) did not receive instruction until after the study was completed.

The question studied by this researcher was whether or not primary students are able to effectively use the research process without instruction by a teacher librarian. This researcher's hypotheses was two primary classes that are given research assignments will show a significant difference in organization of information, quality of information, ideas and research questions, and focus on assigned topic when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction.

The two classes involved were given research assignments on famous African Americans. The resulting class total scores show a gap between the class given instruction in using the Super3 Information Process Model and the class that was not given the same Super3 instruction.

Table 1 shows the scores earned by each student in Group A. Table 2 shows the same scores for Group B. Categories of assessment (organization, quality of information, ideas/questions, and focus) are listed with the scores given by the two teachers for each

category (see Appendix B). These scores were used to determine the correlation between the two teachers' scores and the significance level between Group A and Group B for each category assessed in the student paper scoring: organization of information, quality of information, ideas and questions, and focus.

Table 1

Experimental Group A Teacher Scores

Student #		Category	Teacher 1	Teacher 2
	3	Organization	1	1
		Quality of Info	4	3
		Ideas/Questions	3	3
		Focus	4	4
		Total	12	11
	4	Organization	1	2
		Quality of Info	4	4
		Ideas/Questions	4	4
		Focus	4	4
		Total	13	14
	6	Organization	2	1
		Quality of Info	3	3
		Ideas/Questions	2	2
		Focus	3	3
		Total	10	9
	9	Organization	3	3
		Quality of Info	4	3
		Ideas/Questions	4	4
		Focus	4	4
		Total	15	14
1	2	Organization	2	2
		Quality of Info	4	3
		Ideas/Questions	4	4
		Focus	4	4
		Total	14	13
1	3	Organization	2	1
		Quality of Info	4	1
		Ideas/Questions	4	4
		Focus	4	4
		Total	14	10
1	5	Organization	3	3
		Quality of Info	4	4
		Ideas/Questions	4	4
		Focus	4	4
		Total	15	15
1	6	Organization	1	1
		Quality of Info	2	1
		Ideas/Questions	2	2
		Focus	2	2
		Total	7	6

Table 2

Control Group B Teacher Scores

Student #		Category	Teacher 1	Teacher 2
Student #	1	Organization	1	1
	٠	Quality of Info	3	3
		Ideas/Questions	2	2
		Focus	3	3
		Total	9	9
	2	Organization	ĺ	1
	2	Quality of Info	3	2
		Ideas/Questions	1	1
		Focus	2	2
		Total	7	6
	5	Organization	1	1
	5	Quality of Info	3	1
		Ideas/Questions	2	2
		Focus	3	3
		Total	9	7
	7	Organization	2	·
	,	Quality of Info	3	1
		Ideas/Questions	2	2
		Focus	3	3
		Total	10	7
	8	Organization	2	2
	•	Quality of Info	4	3
		Ideas/Questions	3	3
		Focus	3	3
		Total	12	11
1	10	Organization	1	1
		Quality of Info	3	1
		Ideas/Questions	2	2
		Focus	3	3
		Total	9	7
	11	Organization	2	1
		Quality of Info	4	2
		Ideas/Questions	3	3
		Focus	3	3
		Total	12	9
	14	Organization	2	2
		Quality of Info	4	2
		Ideas/Questions	3	3
		Focus	3	3
		Total	12	10

Table 3 reports the correlation coefficient to show the inter-rater reliability between the teachers' scores. The lowest correlation between the teachers' scores is in the Quality of Information category with a Pearson score of .54. There is also some inconsistency on the Organization of Information category with a score of .71. The teachers had a positive correlation of 1.0 for the categories of Ideas/Questions and for Focus. The overall Pearson coefficient of .77 shows that the teachers were largely in agreement about scoring student papers, demonstrating a good level reliability of the scoring. Although Creswell (2008) states .86 is desirable for reliability, it should be noted that two areas of scoring had a 1.0 level.

Table 3

Correlation Coefficient

Organization	0.71
Quality of	0.54
Information	
Ideas/Questions	1.00
Focus	1.00
Total	0.77

Hypothesis 1

The two primary classes that are given research assignments will show a significant difference in organization of information when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction. Figure 1 shows a comparison of scores of Groups A and B, and Table 4 shows the significance level of the groups' scores.

Figure 1
Organization of Information

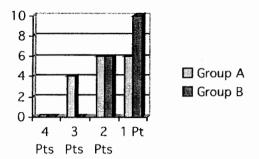


Figure 1 shows Group A had higher scores than Group B. For example, student number four from Group A organized information into two categories; one category was the professional accomplishments of Tiger Woods and the other category was his personal demographics. This might have been better organized starting with the early life of Tiger Woods, what encouraged him to become a world-class golfer, and finally his present day life.

One paper from student number one in Group B received one point from both scorers because it lacked organization into categories. The paper was written as one paragraph and intermittently changed focus throughout; for example this paper received one point for organization from both scorers because the student started the paper with Michael Jordan's single highest scoring game. The next sentence tells the reader when Michael Jordan was born.

Table 4
Organization of Information Significance Level

Experimental	Mean Score	Control	Mean Score
Group A		Group B	
Student #3	2	Student #1	2
Student #4	3	Student #2	2
Student #6	3	Student #5	2
Student #9	6	Student #7	3
Student #12	4	Student #8	4
Student #13	3	Student #10	2
Student #15	6	Student #11	3
Student #16	2	Student #14	2
			p=.09

Table 4 is a summary of the mean scores for each student from the two teacher scorers. A t-test was used to measure the significance of the difference between Group A and Group B. The p value is .09 given a significance level of a <.05. No significant difference was found between Groups A and B. Therefore, hypothesis is rejected.

#### Hypothesis 2

Hypothesis 2 stated the two primary classes that are given research assignments will show a significant difference in quality of information when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction. Figure 2 shows a comparison of scores of both Groups A and B, and Table 5 shows the significance level of the groups' scores.

Figure 2

Quality of Information

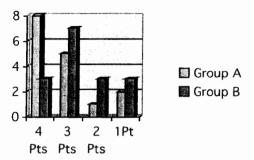


Figure 2 shows that the information in Group A's reports relates to the main topic and includes good quality information when compared to those reports of Group B. The scores also portray the need for more details to support many students' topics. For example student number twelve's paper in Group A received four points from both scorers. The student reported on Colin Powell and included high quality information from these sources: World Book Encyclopedia, World Book Web, DE Streaming, and *Learning About Responsibility From the Life of Colin Powell* by Jeanne Strazzabosco.

On the other hand, student number seven's paper in Group B received a total score of four. The student reported about Kobe Bryant and included information from only one source: *Kobe Bryant: Slam Dunk Champion* by Rob Kirkpatrick. This information was judged poorer quality because the information had little to do with the impact Kobe Bryant has had on the game of basketball as a whole.

Table 5

Quality of Information Significance Level

Experimental	Mean Score	Control	Mean Score
Group A		Group B	
Student #3	7	Student #1	6
Student #4	8	Student #2	5
Student #6	6	Student #5	4
Student #9	7	Student #7	4
Student #12	7	Student #8	7
Student #13	5	Student #10	4
Student #15	8	Student #11	6
Student #16	3	Student #14	6
			p=.08

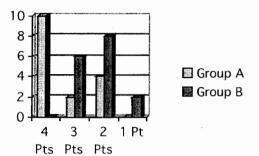
Table 5 is a summary of the mean scores for each student from the two teacher scorers. A t-test was used to measure the significance of the difference between Group A and Group B. The p value is .08 given a significance level of a <.05. No significant difference was found between Groups A and B. Therefore, hypothesis is rejected.

### Hypothesis 3

Hypothesis 3 stated the two primary classes that are given research assignments will show a significant difference in ideas and research questions when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction. Figure 3 shows a comparison of scores of both Groups A and B, and Table 6 shows the significance level of the groups' scores.

Figure 3

Ideas and Research Questions



Group A had more ideas and research questions than Group B. For example, student number twelve's paper that earned four points from both scorers included ideas such as how past achievements relate to the advancement of African Americans today. In contrast, student number two's paper from Group B that earned one point from both scorers included insignificant ideas such as, "Ken Griffey Jr. missed his family so he called home."

Table 6

Ideas and Research Questions Significance Level

Experimental	Mean Score	Control	Mean Score
Group A		Group B	
Student #3	6	Student #1	4
Student #4	8	Student #2	2
Student #6	4	Student #5	4
Student #9	8	Student #7	4
Student #12	8	Student #8	6
Student #13	8	Student #10	4
Student #15	8	Student #11	6
Student #16	4	Student #14	6
			p=.02

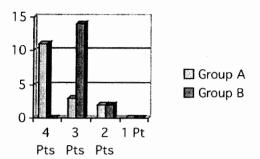
Table 6 is a summary of the mean scores for each student from the two teacher scorers. A t-test was used to measure the significance of the difference between Group A and Group B. The p value is .02 given a significance level of a >.05. No significant difference was found between Groups A and B. Therefore, hypothesis is accepted.

#### Hypothesis 4

Hypothesis 4 stated the two primary classes that are given research assignments will show a significant difference in focus on assigned topic when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction. Figure 4 shows a comparison of scores of both Groups A and B, and Table 7 shows the significance level of the groups' scores.

Figure 4

Focus on Assigned Topic



Students in both groups made attempts to relate their report to the assigned topic.

Group A received high scores for allowing the reader to understand more about this topic.

For example, student number nine with a high scoring paper from Group A focused on the entire life of Scottie Pippen, whereas the low-scoring paper number seven from Group B focused only on points Kobe Bryant made during playoff games. This topic was not in line with the assigned topic of African American reports.

Table 7

Focus on Assigned Topic Significance Level

Experimental	Mean Score	Control	Mean Score
Group A		Group B	
Student #3	8	Student #1	6
Student #4	8	Student #2	4
Student #6	6	Student #5	6
Student #9	8	Student #7	6
Student #12	8	Student #8	6
Student #13	8	Student #10	6
Student #15	8	Student #11	6
Student #16	4	Student #14	6
			p=.02

Table 7 is a summary of the mean scores for each student from the two teacher scorers. A t-test was used to measure the significance of the difference between Group A and Group B. The p value is .02 given a significance level of a >.05. No significant difference was found between Groups A and B. Therefore, hypothesis is accepted.

Forty-four points separated Group A from Group B in the overall scores on the rubrics. This was due to the poor organization Group B presented in their papers, the absence of multiple sources used by Group B, the weak ideas Group B created for complex research questions, and the lack of focus in Group B papers. Group A had a better understanding in all of these areas that earned them better scores.

Group A received 192 points for a total percentage of 75%. Group B received 148

points for a total percentage of 58%. These scores indicate that Group A, who was given the Super3 instruction, had superior research papers.

#### CHAPTER 5

#### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this research was to investigate whether or not primary students were able to effectively use the research process without instruction by a teacher librarian. This study was done by using quasi-experimental research with two third grade classes. This researcher gave two primary classes the same research assignment. One class was given instruction in using the Super3 Information Process Model by a teacher librarian and one class was not given this instruction. Data was collected from sixteen third grade research papers that were analyzed without students' names by the third grade teaching team using a rubric designed by this researcher. This research found that organization and quality of information was rejected and ideas and research questions and focus on assigned topic were accepted. The analysis of the third graders' research papers t-tests determined that it is effective to use the Super3 research process model with instruction given by this teacher librarian.

#### Summary

The results show that it is effective to use the Super3 research process model and instruction by a teacher librarian with third grade students researching and writing reports about famous African-Americans. The three steps used in the Super3 instruction are plan, do, and review.

Eight 30-minute lessons were provided to students in Group A focusing on the steps plan, do and review. The first lesson led students to determine the problem a mouse had and what information was needed for this mouse to solve a problem in *The Little Mouse, the Red Ripe Strawberry, and the Big Hungry Bear* by Don Wood. This

researcher led students to use productive thinking and brainstorm many, varied, and unusual ideas for things the mouse might do to solve the problem.

In lessons two through four students listened to a chapter of *Frog and Toad Together* by Arnold Lobel, where Toad was making a list to plan his day. With some guidance, students learned to plan to help keep themselves organized and to remind them of the steps that needed to be done. The class then used the first step of the Super3 to plan how to do an assignment of writing a riddle about a famous person. Students made lists that included the following: choose a famous person, find sources to find information on this person, read about the person, take notes, and then write the riddle. The fifth and sixth lesson focused on the step of do from the Super3. Students looked back at their lists made during the first step of planning and followed the list. The final two lessons focused on the last step of the Super3: review. This last step required students to look back at their final project to make sure it fit the assignment, to see if the plan was followed, and to see if the final project should have been changed in any way to make it better.

After all of these lessons were complete, students were given their assignment to write a report on a famous African American. All students in Group A used the Super3 process. While students were in the do stage of the Super3, they often thought of more questions they wanted to answer about their famous African American. They were encouraged to go back and add those questions to their plan. Revisiting their plan every day kept students on track to see where they were going and how they would get there.

This researcher conferenced with students in Group A during the entire process of plan, do, and review to give feedback on information found, questions to be answered,

and how to find other quality information resources. Students responded to advice given and added more questions to research during the conference times. Group B had an equal amount of class time with the teacher librarian, but they were given the time to work and conference without instruction.

The hypotheses this researcher stated were that the two primary classes that are given research assignments will show a significant difference in (1) organization, (2) quality of information, (3) ideas and research questions, and (4) focus on assigned topic, when one class is given instruction in using the Super3 Information Process Model by a teacher librarian and one class is not given this instruction. This research found that hypotheses 1 and 2 about organization and quality of information were rejected and hypotheses 3 and 3 about ideas and research questions and focus on assigned topic were accepted.

#### Conclusions

This research was a useful study in finding that all students need to improve work on organizing information into well-constructed paragraphs. Both groups also needed more of a focus on paragraph formation so that they connect their ideas through their sentences creating a flow of ideas.

Planning was the most beneficial for the primary students in Group A. In the steps that followed planning, students continually looked back to this first step for guidance in the completion of the other two steps. Planning helped students to stay focused.

The low correlation of the teachers' scores for quality of information was caused by the lack in students providing supporting details and examples on their topic. The rubric states that to get the highest score of 4, the paper requires many supporting details. In

order to get a 3 on the rubric, the students needed one or two supporting details. Many students struggled with giving examples, however the teacher giving the higher scores thought that for third graders, these were good examples from quality sources.

There was also a low correlation of the teachers' scores for organization of information. Each teacher scored the construction of paragraphs based on where they were in their teaching of constructing paragraphs in their writing classes. The teacher giving the lower scores expected more organization of paragraphs because of the teaching she had given her writing class on paragraph formation. The other teacher didn't expect such well-constructed paragraphs because she had not covered that topic as much in her classroom.

The non-statistically significant differences in hypotheses 1 and 2 for both quality of information and organization of information may be due to the inconsistent scoring between the teachers in these two areas. This discrepancy in scoring and reliance on the teachers own knowledge of information sources and organization of information may indicate that classroom teachers not trained in quality of information sources struggle to recognize quality of information sources in the third graders' papers. It may also indicate that the teachers lack detailed knowledge of the instruction provided by the teacher librarian about sources of information and organized information.

After analyzing the rubric scores, this researcher concluded that the Super3 research process step that was most beneficial to Group A was the first step of planning. In the steps that followed planning students continually looked back to this first step for guidance in the completion of the other two steps. Students in Group A were taught to think about how they would complete their report by thinking about what they were

supposed to do, what a good job would look like, what information was needed, and how to get that information. They had to create a plan. This step took a great deal of time and helped these students to focus on their research. This researcher concludes that Group A learned to ask questions during their Super3 instruction, whereas the students in Group B did not have the modeling for planning or doing.

Students in Group B were simply told to write a report on an African American for Black History Month. They were not given an opportunity to plan or visualize what the end project would look like and how to get to the end.

The second step in the Super3 of do is where students get the information they need and put it all together. The last stage of reviewing was when students checked their work to make sure their papers were complete. They were told to ask themselves if they did what they were supposed to do, if they needed to do anything else before the paper was turned in, and what could be done better next time. Again, students looked back at their plan to see if everything was completed that they initially intended to do.

In summary, students who received instruction from a teacher librarian using the Super3 Research Process Model had an advantage over students who did not receive the same instruction from a teacher librarian. With the statistical differences between the classes, this researcher concludes that using a research process model is more effective than not using a process model. Using a research process will also help students to research as 21<sup>st</sup> century learners according to the American Association of School Librarians (AASL). The *Standards for 21<sup>st</sup> Century Learners* encourage critical thinking skills applied to student research: "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" (AASL, 2007, p. 3).

#### Recommendations

Based on this researcher's findings, she feels there is need for more studies to be conducted using various student information processing research models. An analysis should be done comparing the types of process models used and the effects these models have on student achievement. These studies need to be done with lower elementary school children. It would also be advantageous to follow these students to see how they compare to other students who have not had research process training at a young age.

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# APPENDIX A African American Research Rubric

Research Paper #	
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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas and Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.

#### APPENDIX B

## Scoring Rubrics

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African American Research Rubric

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Research Paper	#	1	

CATEGORY	4	3	2.	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



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# African American Research Rubric

Research Paper #\_\_\_\_\_

CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/duestions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



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CATEGORY	4	3	2	1
Organization	Information is	Information is	Information is	The information
	very organized	organized with	organized, but	appears to be
	with well-	well- constructed	paragraphs are not well-	disorganized.
	constructed		constructed.	
Quality of	paragraphs. Information	paragraphs. Information	Information	Information has
Information	clearly relates	clearly relates	clearly relates	little or nothing
Iniomation	to the main	to the main	to the main	to do with the
	topic, It	topic. It	topic. No	main topic.
	includes	provides 1-2	details and/or	main topio.
	several	supporting	examples are	
	supporting	details and/or	given.	
	details and/or	examples.		:
	examples. `			
Ideas/Research	Researchers	Researghers	Researchers	Researchers
Questions	had insightful,	had reasonable	had only a few	had no
	creative	ideas/questions	reasonable	reasonable
	ideas/questions	to pursue when	ideas/questions	ideas/questions
	to pursue when	doing/the	to pursue when	to pursue when
	doing the research.	research.	doing the research.	doing the research.
Focus on	The entire	Most of the	Some of the	No attempt has
Assigned Topic	report is related	report is related	report is related	been made to
7 tooigned Topic	to the assigned	to the assigned	to the assigned	relate the report
	topic and	topic. The story	topic, but a	to the assigned
	allows the	wanders off at	reader does	topic.
	reader to	one point, but	not learn much	
	understand	the reader can	about the topic.	
	much more	still learn		
	about the topic.	something		
		about the topic.		

Research Paper #

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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



Research Paper #\_\_\_5

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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/duestions to pursue when doing/the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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Research Paper #\_\_\_\_

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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information' clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic
Ideas/Research Questions	Researchers had in sightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
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Research Paper #	10

CATEGORY	14	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



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## African American Research Rubric

Research Paper #\_\_\_\_\_

CATEGORY	14	3	2	11
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic, it includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.



CATEGORY	4	T 3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative/ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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CATEGORY	14	3	12	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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#### African American Research Rubric

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Research Paper #	1

CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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Focus on Assigned Topic	The entire report is related to the assigned topic and allows the reader to understand much more about the topic.	Most of the report is related to the assigned topic. The story wanders off at one point, but the reader can still learn something about the topic.	Some of the report is related to the assigned topic, but a reader does not learn much about the topic.	No attempt has been made to relate the report to the assigned topic.

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CATEGORY	4	3	2	
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has vittle or nothing to do with the main topic.
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CATEGORY	4	3	2	7
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
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Research Paper #

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CATEGORY	4	3	2	1
Organization	Information is	Information is	Information is	The information
	very organized	organized with	organized, but	appears to be
	with well-	well-	paragraphs are	disorganized.
	constructed	constructed \	not well-	
	paragraphs	paragraphs.	constructed.	
Quality of	Information	Information	Information	Information has
Information /	clearly relates	clearly relates	clearly relates	little or nothing
	to the main	to the main	to the main	to do with the
	topic. It	topic. It	topic. No	main topic.
	includes	provides 1-2	details and/or	
1	several	supporting	examples are	
1	supporting /	details and/or	given.	
]	details and/or	examples.		
	examples.			
Ideas/Research	Researchers	Researchers	Researchers	Researchers
Questions	had insightful,	had reasonable	had only a few	had no
	greative \	ideas/questions	reasonable	reasonable
	ideas/questions	to pursue when	ideas/questions	ideas/questions
	to pursue when	doing the	to pursue when	to pursue when
	doing the	research.	doing the	doing the
	research.		research.	research.
Focus on	The entire	Most of the	Some of the	No attempt has
Assigned Topic	report is related	report is related	report is related	been made to
	to the assigned	to the assigned	to the assigned	relate the report
	topic and	topic. The story	topic, but a	to the assigned
	allows the	wanders off at	reader does	topic.
	reader to	one point, but	not learn much	
	∖understand /	the reader can	about the topic.	
	nuch more	still learn		
	about the topic.	something		
	<del></del>	about the topic.		



CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
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CATEGORY	4	3	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
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Research Paper#_	0	

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Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
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Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
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CATEGORY	14	13	2	1
Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
Quality of Information	Information clearly relates to the main topic. It includes several supporting details and/or examples.	Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.	Information clearly relates to the main topic. No details and/or examples are given.	Information has little or nothing to do with the main topic.
Ideas/Research Questions	Researchers had insightful, creative ideas/questions to pursue when doing the research.	Researchers had reasonable ideas/questions to pursue when doing the research.	Researchers had only a few reasonable ideas/questions to pursue when doing the research.	Researchers had no reasonable ideas/questions to pursue when doing the research.
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Organization	Information is very organized with well-constructed paragraphs.	Information is organized with well-constructed paragraphs.	Information is organized, but paragraphs are not well-constructed.	The information appears to be disorganized.
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CATEGORY	4	3	2	1
Organization	Information is	Information is	Information is	The information
Organization	very organized	organized with	organized, but	appears to be
	with well-	well-	paragraphs are	disorganized.
	constructed	constructed	not well-	
	paragraphs.	paragraphs.	constructed.	
Quality of	Information /	Information \	Information	Information has
Information	clearly relates /	clearly relates \	clearly relates	little or nothing
	to the main	to the main	to the main	to do with the
	topic. It	topic. It	topic. No	main topic.
	includes	provides 1-2	details and/or	ſ
	several	supporting	examples are	
	supporting	details and/or	given.	
	details and/or	examples.		
Ideas/Research	examples. Researchers	Researchers	Researchers	Researchers
Questions	had insightful,	had reasonable	had only a few	had no
Questions	creative	ideas/questions	reasonable	reasonable
	ideas/questions	to pursue when	ideas/questions	ideas/questions
	to pursue when	doing the	to pursue when	to pursue when
	doing the	research.	doing the	doing the
	research.		research.	research.
Focus on	The entire	Most of the	Some of the	No attempt has
Assigned Topic	report is related	report is related	report is related	been made to
	to the assigned	to the assigned	to the assigned	relate the report
	topic and	topic. The story	topic, but a	to the assigned
	allows the	wanders off at	reader does	topic.
	reader to	one point, but	not learn much	
	understand	the reader can	about the topic.	
	much more	still learn		
	about the topic.	something about the topic.		
		about the topic.		

CATEGORY	4	3	2	1
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