5-2011

The Relation between Speech and Reading

Erin St. Jacques

Follow this and additional works at: https://digitalcommons.ric.edu/honors_projects

Part of the Educational Assessment, Evaluation, and Research Commons, Educational Psychology Commons, Elementary and Middle and Secondary Education Administration Commons, Elementary Education and Teaching Commons, and the Linguistics Commons

THE RELATION BETWEEN

SPEECH AND

READING

By

Erin St. Jacques

An Honors Project Submitted in Partial Fulfillment

of the Requirements for Honors

in

The Department of Communication

The School of Arts and Sciences

Rhode Island College

2011

THE RELATION BETWEEN

SPEECH AND

READING

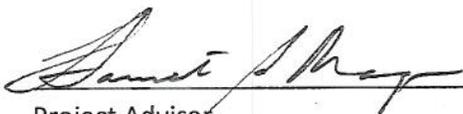An Undergraduate Honors Project Presented

By

Erin St. Jacques

To

Communication

Approved:

_____   _____
Project Advisor   5/13/11
                                                                            Date

_____   _____
Chair, Department Honors Committee   5.16.11
                                                                            Date

_____   _____
Department Chair   5.16.11
                                                                            Date

The Relation between Speech and Reading

Objective: To study the role of speech-language pathologists in teaching reading

Introduction

This research paper is going to analyze the connection between speech and reading, and language and reading, and how both are related to a speech-language pathologist's job in a school setting, working with struggling readers. Research about the process of learning how to read and how an SLP can be brought in at different stages will be examined. This research paper is going to look at how a child learns to read; programs will be done involving young readers with reading disabilities. It will also examine the different stages of learning to read and how an SLP can try to help. The tactics will be examined more closely as well as the examination of how writing a narrative and being able to tell a story play into learning how to read.

The significance of the study is to analyze the role a speech-language pathologist plays when teaching children to read. First, past research will be examined which will define the role of a speech-language pathologist. Then the basics of learning to read and write will be reviewed, followed by the nature and cause of reading disabilities. Subsequently, the process of learning to read and write will be discussed. An analysis of writing systems and reading will be discussed next, concluding with different programs that are used to help teach reading. Two experiments will be explained, along with results and conclusions.

I: Role of the Speech-Language Pathologist

Many people think that speech-language pathologists should play a bigger role when it comes to teaching children to read and write. Annett (2001) says, "Like basketball players on the bench who have the skills but haven't necessarily been first string, SLPs are very well equipped to address literacy issues but aren't necessarily stepping forward into the thick of things. We need to come off the bench, become actively involved, share the responsibilities, and make a commitment to the team." Success in literacy requires teamwork with multiple people playing their positions. SLPs play a critical and direct

role in literacy with children who have communication disorders—children who by and large are already on an SLP's caseload. The amount of research on literacy has increased greatly over the past 15 years, providing the "clear potential to make us more effective in teaching all children to read than ever before" (Annett, 2001). About 20% of elementary students across the country have significant problems learning to read, and at least another 20% do not read fluently enough to enjoy or engage in independent reading due to communication disorders (Annett, 2001).

Speech-language pathologists play many roles when it comes to teaching children how to read and write. A position statement from ASHA (2001) describes the roles speech-language pathologists have in the development of literacy for children and adolescents with communication disorders and describes the connection between spoken and written language. Spoken language provides the foundation for the development of reading and writing. Children with spoken language problems often have difficulty learning to read and write. Problems with phonology, morphology, syntax, semantics and pragmatics can contribute to difficulty in learning to read and write. Speech problems can take place in the production, comprehension and awareness of language at all levels: sound, syllable, word, sentence and discourse.

The appropriate roles and responsibilities for SLPs include, but are not limited to preventing written language problems, identifying children at risk for reading and writing problems, assessing reading and writing, providing intervention and documenting outcomes for reading and writing, and providing assistance to general education teachers, parents and students (2001). Individuals with reading and writing problems may experience difficulties using language strategically to communicate. Speech-language pathologists play an important role in the prevention of literacy problems among children with reading disorders. Their goals are to promote opportunities for success in spoken and written language for children with and without communication disorders.

With the knowledge they have, SLPs are able to help primary classroom teachers develop strategies for teaching the auditory skills necessary in learning to read. These skills are not only important in speech and language acquisition but are also essential to reading readiness. It is an SLP's job to provide a framework for the classroom teacher in assessing reading readiness skills. Their long-range objective would be to assist the classroom teaching in incorporating the auditory activities into the daily curriculum. SLPs should be more aware of the ways their knowledge of auditory processes can benefit primary teachers and students (Gruenewald & Pollak, 1975).

Sanger & Griess (1995) show that educators have positive opinions about SLPs' services but some responses suggest some uncertainty about SLP's role with certain student groups and the adequacy of their training in behavior management, reading, multicultural issues and teaching English as a second language. All respondents agreed that an SLP should provide intervention services for a student who uses an augmentative and alternative communication device to communicate. However, some professionals have expressed concern about adding to speech-language pathologists' caseloads. If schools can find a way to lighten case loads, the service of SLPs will better meet individual student's needs (Sanger & Griess, 1995). One thing that could be done is have one SLP per school rather than trying to spread them out among many schools.

Speech-language pathologists have the specialized knowledge and experience that is needed to identify communication disorders and provide the help that children need to build their language literacy skills. SLPs play an important role in both special education and regular education settings: providing classroom based services; co-teaching with classroom teachers and reading specialists; working with students who are at risk for reading and learning difficulties and with children who are experiencing academic failure; and providing training to parents, teachers and administrators to help

support students' academic and social success ("American Speech," 2001; Neuman, 1979; Shipley &

McFarlane, 1981).

Data indicate that public school SLPs believe they ought to be involved with children with

reading disorders, yet they report that they are not involved to a great extent (Casby, 1988). The SLPs'

role in reading instruction is something more than the identification and remediation of coexisting

defects of articulation or auditory perception. It is also essential to contribute to make the process of

reading acquisition in normal and language disordered children. There is a significant amount of

evidence to indicate that SLPs can make a very important contribution to the prevention and treatment

of reading problems. If SLPs are to assume a greater role in the management of children with reading

disorders, there is a need for modification and/or expansion of existing professional training programs

(Casby, 1988). The following research completed by the author on graduate school programs and the

courses that are required to earn a master's degree in speech-language pathology showed that there did

not seem to be many classes, if any, focusing on reading. The University of Rhode Island, Worcester

State University, Syracuse University, NOVA Southeastern University, LaSalle University, MGH Institute

of Health Professions, Boston University, Emerson College, University of Massachusetts- Amherst and

Northwestern University were the ten school programs looked at by the author. URI, SU, LaSalle

University, MGH, UMass or Northwestern did not have any classes that focused on reading while WSU,

NOVA, BU and Emerson had one class that was mandatory. This is a good example of the need to

modify or expand the existing professional training programs for SLPs to better help poor readers.

The roles of school speech-language pathologists continue to become more diversified. A major

error in many instructional programs has been to ignore or underestimate the importance of linguistic

competence and language-learning capabilities of children learning to read. Language is very important

in the process of learning to read. Prerequisites to reading should be provided in kindergarten for those

children who lack linguistic skills because beyond this point, children will need instruction in skills basic to reading. According to Neuman (1979), SLPs are thought to give directed language lessons. School settings offer opportunities for speech-language specialists to be instrumental in language arts programs and, if need be, SLPs should be ready to meet this challenge (Neuman, 1979).

II: Basics-Learning to Read and Write

Reading is a language-based skill and children experience difficulty learning to read because reading is based on language competence, or the child's knowledge about the components of language, such as morphology and phonology. Early success in reading predicts a child's ability to accurately and effectively master core literacy constructs like phonological awareness, alphabet knowledge and the concept of word and grapheme phoneme correspondence, and to exercise these understandings in a comfortable sociocultural context (Invernizzi, 2004; Shipley & McFarlane, 1981).

Children who enter reading instruction with underdeveloped skills in early literacy are relatively unlikely to "catch up" with their peers in reading achievement. The risk for reading disability that is experienced by children with language difficulties results from an interaction among a variety of biological and environmental factors. In studies by Invernizzi (2004), Shipley & McFarlane (1981) and Skibbe (2008), a majority of preschool to elementary school students demonstrated the most reading skill growth during the first few years of school due to these biological and environmental factors. To mitigate the risks for poor reading outcomes typical of many children with language difficulties, it is important that school-based SLPs adopt evidence-based practices that are empirically shown to elevate the reading outcomes of struggling readers from the earliest age possible (Invernizzi, 2004; Shipley & McFarlane, 1981; Skibbe, 2008).

III: The Nature of Reading Disability

Approximately 7% of all school aged children have unusual difficulty learning and using language despite adequate hearing, nonverbal intelligence and motor abilities. Reading disabilities can have serious social, academic and vocational ramifications. Reading is a language-based skill and many communicatively handicapped youngsters experience difficulties. Both genetic and shared environmental factors contribute to the association between language and all reading measures, to a similar degree. The association between speech and reading is mediated mainly, but not exclusively, by genetic factors (Gillam, 2008; Hayiou-Thomas, 2010; Shipley & McFarlane 1981).

Reading/learning disabilities have been identified primarily on the basis of reading problems. They are not identified until a child is starting to learn to read. Most children with these disabilities have not been identified until they have entered school and have experienced significant difficulties learning to read. Specific reading disability or dyslexia was defined in 1995 by Gillon as a developmental language disorder whose prominent characteristics are deficiencies in spoken and written language. This evidence indicates that speech sound disorders overlap with reading disability at a number of levels (Gillon, 1995). Children with speech sound disorders often have difficulty with phonological awareness tasks. Phonological awareness is the understanding that speech is composed of sub-parts — sentences are comprised of words, words are comprised of syllables, syllables are comprised of onsets and rimes, and can be further broken down to phonemes. Phonological processing has a central role in reading acquisition so it is not surprising that they are linked. Difficulties in spoken language are contributory factors to reading disorder. Training in phonemic awareness skills, particularly the phoneme segmentation skills of kindergarten age children, can improve early reading performance. Training in

both sub-skills, phonological processing and awareness, is necessary to facilitate rapid progress in the initial stages of reading (Catts, 1997; Gillon, 1995; Rvachew, 2007).

IV: Causes of Reading Disability

Literacy skills stand in complete contrast to the inborn basis of spoken language abilities. Babbling occurs in all babies. All cultures have the skills and vocal system to be able to produce speech. On the other hand, not all speakers read, as reading is a skill to be learned. Students fail to become skilled readers for a variety of reasons. One possibility is that the acoustic speech signal does not have segments in it that correspond to the consonants and vowels of the spoken language like letters of the alphabetic writing system. Young children focus on the meanings of words and find it much more difficult to become aware of the phonemes making up those words. Children who are not fully aware of the individual speech sounds in spoken words are the ones struggling with learning to read (Haskins Laboratories).

There are two factors that help in learning to read. Limitations in phonemic awareness are one of the hallmarks of reading weaknesses at any age, even for adults. Phonemic awareness is the most important process and is the earliest stage of grasping the alphabetic principle. Weaknesses in phoneme awareness, letter knowledge and certain language abilities turn out to be strong predictors of subsequent difficulties learning to read. A second factor affecting ease in learning to read appears to be environmental. Early childhood activities such as songs and word games enhance awareness of the sounds in words and help the child more toward full appreciation of the phonemic composition of words. Letter knowledge can increase the likelihood of reading success in children (Haskins Laboratories). The role of the SLP in this case would be to promote the learning and understanding of these skills. One way to do this is to play word games, matching and or memory games.

V: Learning to Read and Write

There are many different ways a child can be taught to write, and opinions vary about how this should be done. Invented spelling is the practice of non-standard spelling. It is the child's attempt at spelling a word not already known to him or her using what he or she knows about the English spelling system. Invented spelling is a prereading skill that young children show before they receive any formal instruction in reading and or writing. It is a highly predictive measure of early reading achievement (Ahmed & Lombardino, 2000).

Dehaene (2009) describes learning to read and write as a process of several steps. Writing is progressively anchored in the child's brain because it finds an appropriate niche for itself in circuits that are already functional and only need to be minimally reoriented. The first stage is the "logographic" or "pictorial". The child has not yet grasped the logic of writing, and his/her visual system attempts to recognize words as though they were objects and faces. At this stage, which often predates formal teaching, the child typically recognizes his name and perhaps a few other striking words such as pictures or advertisements, which are only artificial forms of reading. The child's brain at this stage is attempting to map the general shape of words directly onto meanings, without paying attention to individual letters and their pronunciation, a sham form of reading (Dehaene, 2009).

In order to move beyond the pictorial stage a child must learn to decode words into their component letters and link them to speech sounds. The development of a grapheme-to-phoneme conversion procedure is characteristic of the second stage in reading acquisition, the phonological stage. The child learns to attend to smaller constituents such as isolated letter and relevant letter groups and, at this point, whole words cease to be processed. Now a child starts to link graphemes to the corresponding speech sounds and practices assembling them into words and can now even sound out unfamiliar words. This is known as the alphabetic stage. A child has learned about the alphabet and

knows each letter means something and as a result, he/she starts to link letters to phonemes. SLP's are helpful here because they have alphabetic insight which helps link the alphabet to spelling (Catts & Kamhi 2005). SLPs use word and spelling games to help promote reading and sounding out letters.

The child does not use knowledge of letter names or sound-letter relationships to recognize words (Firth, 1985). The last stage is the orthographic stage and automatic word recognition. This stage is characterized by the use of letter sequences and spelling patterns to recognize words visually without phonological conversion. Orthographic knowledge is necessary for automatic, effortless word recognition. Without orthographic knowledge, the reader would continue to have to sound out long multisyllabic words and rely on the more inefficient and time-consuming indirect phonological route to access semantic memory (Catts & Kamhi 2005).

Reading acquisition progresses from simple to complex rules. A child first learns to spell out letters whose pronunciation is regular, and then progressively learns to decode increasingly complex and infrequent graphemes. For instance, a word like 'at' would be easy to spell because the letters and sounds match but the word 'tree' is much harder and maybe spelled like 'chree' when a child is first learning. The child discovers relevant consonant clusters and also memorizes special letter groups. "The expert reader is a well-read man or woman who implicitly knows a large number of prefixes, roots and suffixes and effortlessly associates them with both pronunciation and meaning" (Catts & Kamhi 2005).

VI: Writing Systems and Reading

Learning to read is closely linked with learning to write. The way a child tells a story or writes a narrative can help an SLP to understand their reading problems. The SLP can figure out what stage the child is in or what part of language (grammar, spelling, etc.) they are having trouble with.

According to Perera (1992), when children learn to write it means they are learning new ways of making meaning, particularly learning to write expository and argument genres. There are three major requirements involved in learning genre writing:

Generating the right content and enough of it,

Organizing the content to conform to an appropriate global text structure,

Calling up the right structures and words that accomplish text-level goals.

Typically, growth in all three domains occurs concurrently, but developmental asynchronies can occur. The question of how children and adolescents learn to write in these new genres is also complicated by the difficulty of separating intrinsic cognitive and linguistic developmental factors from the filter effects of school curricula and writing instruction (Perera, 1992).

A variety of classification schemes of typical school writing genres have been proposed. Most distinguish between narrative and expository. School writing done within any one curricular subject could call for several different genres (procedure writing, a report or an explanation) (Gee, 1994). Several studies of elementary school writing curricula confirm the dominance of narrative writing, followed by informational writing, with persuasive writing addressed least frequently (Crowhurst, 1987; Langer, 1985; Martin, 1989; McCutchen & Perffetti, 1982). Standards are restated in greater detail and become more stringent at each of five grade ranges; even at the earliest period, children are expected to use complete sentences, use prewriting strategies, display organization of texts, and write in descriptive, explanatory, persuasive, and narrative genres (Illinois Learning Standards, 2004).

When children are writing a narrative they need to think about all the details they want to talk about and be able to put them into order and write it down so that when somebody reads what they wrote they understand what is going on and it is in the correct order. To older children and adults this

task does not seem as hard but young children have to learn the process and it can be very difficult. Children have to worry about grammar, spelling, sentence structure, context and the order of their sentences all while newly being introduced to these concepts.

One way children learn to read is by joint book reading. In some mainstream homes, parents begin reading to their children as soon as babies are born, and some may even read to their unborn fetuses. In most mainstream homes, parents are reading to their infants by 5 to 6 months. From these interactions with books, babies learn that books are important to adults in their world and a lot of talk surrounds books. Joint book reading not only impacts children's conceptual and reasoning skills, it also exposes children to specific components of print and book conventions. Interest in rhyming and developing knowledge of rimes and onsets may lead some children to become interested in and aware of all the sounds in words (Catts & Kamhi 2005).

VII: Programs

There are many different programs that are used to help teach reading. The author reviewed different programs for struggling readers and found the more effective programs. Some of the best programs include Reading Rescue, Howard Street Tutoring Program (HST), and The Reading Connection. Both Reading Rescue and Howard Street Tutoring Program use one-on-one tutoring as the way to teach children how to read. The Reading Connection uses volunteers that read aloud to children, workshops that help parents to encourage reading, and family support groups who promote the importance of reading. Recently, in *The ASHA Leader,* there was an article about a "Write and Create" service learning program. Communication disorders master's students from Temple University participated in a 2-semester long project with a nearby inner city school. It is an after-school program where the master's students are paired up, as one-on-one mentors with a kindergarten or first grade student. The mentors help their buddy to plan, compose, revise, finish, and read their own books. The outcome of this

program has seen significant increase in literacy achievement over the academic year. The children

commented saying, "It felt good because I know how to write a book" and "I learned that I can sound

out the words if I want to read to someone" (Krakow, Goldstein & Davison, 2010). One other program,

Mastering Reading Instruction, is a continuation of the Early Reading Success Initiative which is a

professional development project whose purpose is to use scientific research in reading to support

teachers in their knowledge and practice of effective reading instruction (Neuman, 1979).

The purpose of the current research is to study the relation between speech and reading and

the role of speech-language pathologists in teaching reading. Given the research that has already been

done, the two experiments being performed will help to establish the relation between speech and

reading and the role of a speech-language pathologist. Experiment one recreates a Write and Create

project done at a graduate school at Temple University. Experiment two will study the relation between

speech and reading by observing and collecting data throughout a semester long project replicating

experiment one with a larger sample.

A Write and Create project, similar to that performed by students at Temple University, was

created. At a local inner city elementary school 1st and 2nd graders created a book throughout the

semester guided by the graduate students. The project is intended to benefit all the students with any

disabilities they may have.

Experiment 1

Method

The project consists of finding the child's reading interest and reading skill level, and creating a

book where the child is the author and illustrator and the college student is the editor. The child draws

pictures and writes sentences to go together throughout the story which can be about anything the

child decides. At the end the college student "publishes" a bound book of the story for the child including an "about the author" section.

A 3rd grade child, Taylor, was chosen as a student who fits the criteria of the study. She has a mild reading disorder and was a great candidate to benefit from this project. First, a reading interest questionnaire was given (see Appendix A) and then a standardized test was given to find her reading level. The test used was the wiat-II (Wechsler Individual Achievement Test). For the purpose of creating a book, Taylor was seen over the course of the school year. Throughout the project she learned how to write a good book and she worked on her spelling and reading skills.

Eight meetings were scheduled for the length of the school year to complete the book (see Appendix B). Each time a log was kept that tracked the meeting times, what was worked on, and any comments/concerns about the meeting (see Appendix C). Throughout the year she worked on coming up with a book topic, the order of a story, the sentences for the book, as well as the pictures she created to go along with the story. At the end, the book was bound for her and was given to her to keep. Her reading interest was tested again along with some follow up questions (see Appendix D and E). This was to compare the data to the first set to see if the project has helped Taylor become a better reader and enjoy reading more.

In doing this project the outcome is to show Taylor the process of reading and writing so she has a better understanding of it and also to help her get better at it so she enjoys reading more. Being able to write a book is very exciting and being able to accomplish this should give Taylor more developed skills and confidence.

Results

While administering the questionnaire survey to Taylor, the questions were read out loud to her. When she read her answer back, she would read words incorrectly and then mark down that she was 'a very good reader.' This shows that she is not aware of how she is reading or what makes a good reader.

The analysis and comparison of Taylor's questionnaires from before the project was started (9.24.10) and after the project was completed (3.11.11) revealed some interesting differences (see Figure 1). For 10 out of the 19 questions, she responded with the same answer. Most of the answers that changed, though, have changed for the better. For example questions 4, 7, 8, 13 and 22 all changed to a more confident response.

On question 12, she answered I think libraries are 'a great place to spend time' then answered later 'an interesting place to spend time.' This shows a change in a less positive direction. All other changes were in a positive direction. The first question that showed a change was number 4. She went from answering that reading a book was something she liked to do 'sometimes' to something she liked to do 'often.' Question 6 she answered my best friends think reading is 'Ok to do' when previously she answered 'really fun.'   On 9/24/10 Taylor responded by answering that when she comes to a word that she doesn't know she can 'sometimes figure it out' for question number 7. On 3/11/11 she responded by answering she can 'almost always figure it out.' For question number 8 her first answer was that she 'never tells her friends about good books she reads' and now she 'tells her friends about good books she reads some of the time.' Taylor went from thinking that people who read are 'interesting' to 'very interesting' on question number 10. On 9/24/10 Taylor responded by answering that she worries about what other kids about her reading 'once in a while.' On 3/11/11 she responded by answering she 'never' worries for question 13. On question 14 she went from thinking that knowing how to read well

is 'important' to 'very important.'   For question 20 Taylor answered that she would like for her teacher to read books out loud to the class 'almost every day' and previously she answered 'once in a while.' The last question that changed from the first to the second is question 22; she thought that when someone gives her a book for a present, she feels 'sort of happy' and after the project she feels 'very happy'.

Experiment 2

Method

Throughout the Spring 2011 semester-long project in a Rhode Island College Language Processes class, Communication 422, taught by Dr. Harriet Magen, observations and data will be collected and analyzed to compare the outcome of Experiment 1 to a larger group of children. How the two processes differed and how that changed the children's outcome will also be reported. The children in this experiment are second grade students, 6 girls and 7 boys, from the Robert F. Kennedy School in Providence, Rhode Island. They will also be observed and compared to each other to see the ways that children can learn to read and write through different graphic organizers and teaching approaches, as well as at different paces. The data will be in the form of interest questionnaires and testimonials from the RFK students.

The meetings will take place in a similar manner to Experiment 1. The Rhode Island College students in the Language Processes class are essentially doing the same project with the child they get matched up with as the project that was done with Taylor. The class will meet with the RFK students 8 times throughout the semester. At the first meeting the same interest questionnaire will be administered to each child by their Rhode Island College buddy. At the meetings, the RIC students will help their RFK buddy to write and illustrate their own book.

Results

Each answer for a question was assigned a value: 1, 2, 3 or 4 points. The most positive answer was worth 4 points and the most negative answer worth 1 point. For instance, in question 3 the answers are 'a very good reader,' 'a good reader,' 'an OK reader,' and 'a poor reader.' The answer 'a very good reader' is worth 4 points and the answer 'a poor reader' is worth 1 point. The scores were added up for each question and the percentage for each was calculated. Percentages were necessary because the number of responses varied for each question. To get the percentages for pre- and post-questionnaire, the raw scores of each were added up for each gender. That total was divided by the number of points possible.

Results from Experiment 2 showed that when comparing the RFK students to Taylor, there were some major differences. Many more of the RFK students had 7 or more changes in their answers. It was also surprising to find that the majority of the answers that changed went in the negative direction. There were 11 questions that showed a change by most children and out of those 11 questions 6 changed in a mostly negative way, 4 changed in a mostly good way and one evened out.

One of the reasons for this could be because they are younger than Taylor and did not understand the questions initially as well as she did. If this was the case when they answered the question, an accurate self evaluation was hard to determine. Another possible explanation could be that Taylor was most honest and self aware when answering her questionnaire whereas the RFK students at first were trying to pick what they thought was the 'best' answer; as they grew more comfortable with the post-questionnaire, they answered more honestly. Along the same lines, they could have over-judged their reading skills and when it came to self-evaluation after the project, they realized they were not as good readers as they thought they were so their answers as a whole decreased.

Comparing the results from the pre- and post- questionnaires for the RFK students, it seems that there was a decrease in their positive answers. The decrease of an individual student was only a percentage point or two but across all students the decrease was large. Some data was missing due to absent students or from errors in administration by the RIC students. Better training for the RIC students in administering the exam might have prevented some of the discrepancy. Another thought is that someone who looks more like an authority figure needed to administer the test to the RFK children so they would take the questions more seriously and to make sure they understand the questions fully and correctly.

Testimonials at the end of the project were taken both from Taylor and from the RFK students. These showed a much greater positive difference than the pre- vs. post-questionnaire reveals. This discrepancy could be telling us that maybe at the time of the post-questionnaire, the children have re-evaluated themselves and realized they were not the readers they thought they were before the project started, giving more honest answers at the end. Another possibility is by the end, the children feel more comfortable with their RIC buddy and so instead of trying to give the best answer or the one they think they are supposed to pick. They are being more honest.

For analysis, the testimonials were divided into three categories: content and what the children said they learned throughout the process; how they felt about the program; and what they learned about the writing process. Children made comments very similar for each of the three categories. What they said about what they learned is that, "writing a book is important because you need talent to write and draw." Another said, "I got to learn more about knights!" One little girl said, "I got to learn all the parts of a story and how to edit my own work." Similarly another girl said, "I learned how to write and illustrate a book." As can be seen by the testimonials, the children said they learned a lot, indicating a discrepancy between the data and testimonials.

Some examples of the comments concerning how they felt about the program are: "I liked everything about the project, especially drawing pictures." A little boy said, "I love my book, I hope I can do this again next year." Along the same lines another child said, "I would like to write another book. I wish we met more than once a week." One child commented on what she learned about the writing process by stating, "I thinking reading and writing this story made me a better reader and writer."

Discussion

In Experiment 1, there could be a couple reasons that Taylor marked down that she was a very good reader even though she had trouble reading the questions. One reason is that she did not want others to think she was a bad reader so she gave the response that she thought she was supposed to say. The other reason is that she did not know the reading level she was on and she thought she was a better reader than she really was. Most children at such a young age think they are good at everything and do not usually admit that they are bad at something.

The time span of the project with Taylor was about six months. One may not be able to see a huge difference in such a short time. The Motivation to Read questionnaire revealed some real changes. The answers that changed, as in question 13, showed that taking a little extra time with a child who is struggling to read can make a great difference in their confidence.

All of the childrens' responses were recorded and organized by answer. There are 19 questions total and each had four possible responses to choose from. There were 13 children total, 6 girls and 7 boys. There are some cases where most of the children seem to predominately respond with the same answer (questions 3, 9, 12, 14, 16, 18, 20 and 22). The rest are more evenly dispersed. The questions that were most answered with the same answer by the children show high confidence of their own reading skill and a great love of books and reading in general. The questions with more diverse answers ask more about what others think of the child.

The results for the RFK students before and after the project varied. Out of the 19 questions, 11 of the questions had four or more students change their answer. For the post-questionnaire responses data was only available from 10 out of the 13 RFK students. For three of the questions (numbers 6, 10 and 13) the majority of the answers that changed went up. Question 6 said 'My best friends think reading is___' with the response choices being: 'really fun,' 'fun,' 'OK to do,' 'no fun at all.' Out of the 10 students, 6 showed a positive increase. 'People who read a lot are___' is question 10 and there was a positive increase from three students. 'Very interesting,' 'interesting,' 'not very interesting' and 'boring' were the response choices. The last question with a positive increase from 4 students is number 13 which read 'I worry what other kids think about my writing___.' 'Everyday,' 'almost every day,' 'once in a while,' or 'never' were the response options.

Three questions stuck out where there was a difference between how the boys answered and how the girls, including Taylor, answered: questions 12, 13 and 19. The raw scores show that in general, more girls rated themselves high as compared to boys (see Figure 2). It is possible that the girls in general think more highly of themselves at this age and the boys were rating themselves more honestly or are harder on themselves.

An analysis was done on answers with the most change in percentage scores. It was found that from pre- to post- questionnaire there was a negative direction overall (see Figure 3). To figure out how much change occurred, the pre- and post-percentages were subtracted from one another to derive the percentage point difference. Girls had 3 questions that did positively increase numbers; 6, 7 and 20 increased by 6 percentage points or greater. In the post-questionnaire the girls seem to think more positively about how others like reading, are more confident they can figure out a word they did not know, and want to be read to more. This analysis is already showing some positive feedback from the program by at least making children more aware of reading and its importance. Five questions did

negatively increase from the pre- to post- questionnaire, questions 5, 8, 9, 12 and 16 by 6 to 21 percentage points. The decrease shows that girls may have re-evaluated themselves and may have given themselves more appropriate answers for some of the questions. For example, number 5 asks 'I read___.' The decrease in percentage points in the question may not be a bad thing because for the pre- questionnaire the girls rated themselves so high. The same could also apply to number 9.

The boys only had one question, quesiton10, where the answer increased. This question increased by 10 percentage points. They had 8 questions that decreased: 3, 15, 17, 18, 19, 20, 21 and 22 (see Figure 3). They also had more questions than the girls that did not change. This could be explained because boys were more honest during the pre-questionnaire so that not as many answers increased or decreased. The questions the boys answered that decreased show that the boys are still not as confident. An example is number 15 which decreased by 16 percentage points. 15 asks 'when my teacher asks me a question about what I have read, I___.' The reason boys may still feel a lack of confidence is that they are not at the same reading level as girls are at this age. They could be aware of this and the data shows that it is a possibility.

The results from this project have shown that children become more confident just by having a little one-on-one time and more exposure to reading and writing even though there is a discrepancy between questionnaire responses and the testimonials. The children loved to make their own book and were very proud of the work they did. It is very important that children at a young age get help if there are reading problems. Speech-language pathologists can help children to become better readers and children can benefit from the knowledge SLPs can bring to the table. This project requires an SLP because of the knowledge they have about the sound to symbol association in reading and the complications involved in learning it. Knowing where reading and writing errors usually occur and how to fix them can help many struggling readers before it is too late.

Figure 1.
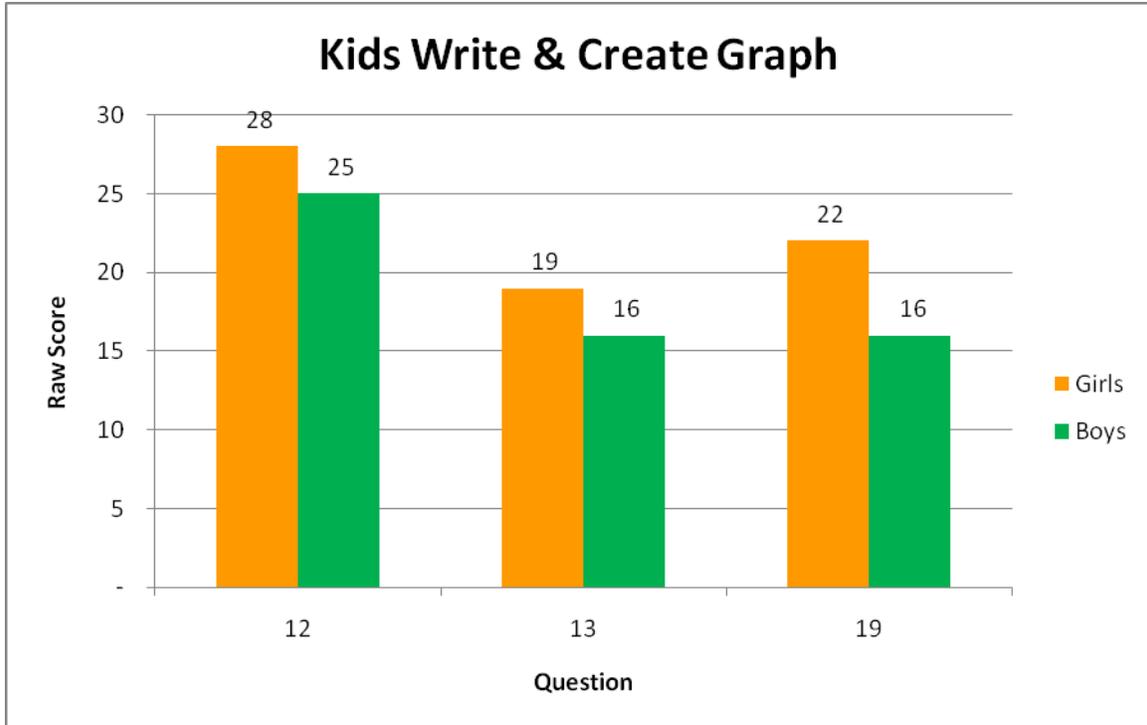Kids Write & Create Graph – Before and After
This graph shows Taylor's responses pre- and post- the Write and Create project. The bold bars are the answers that showed a difference in response.
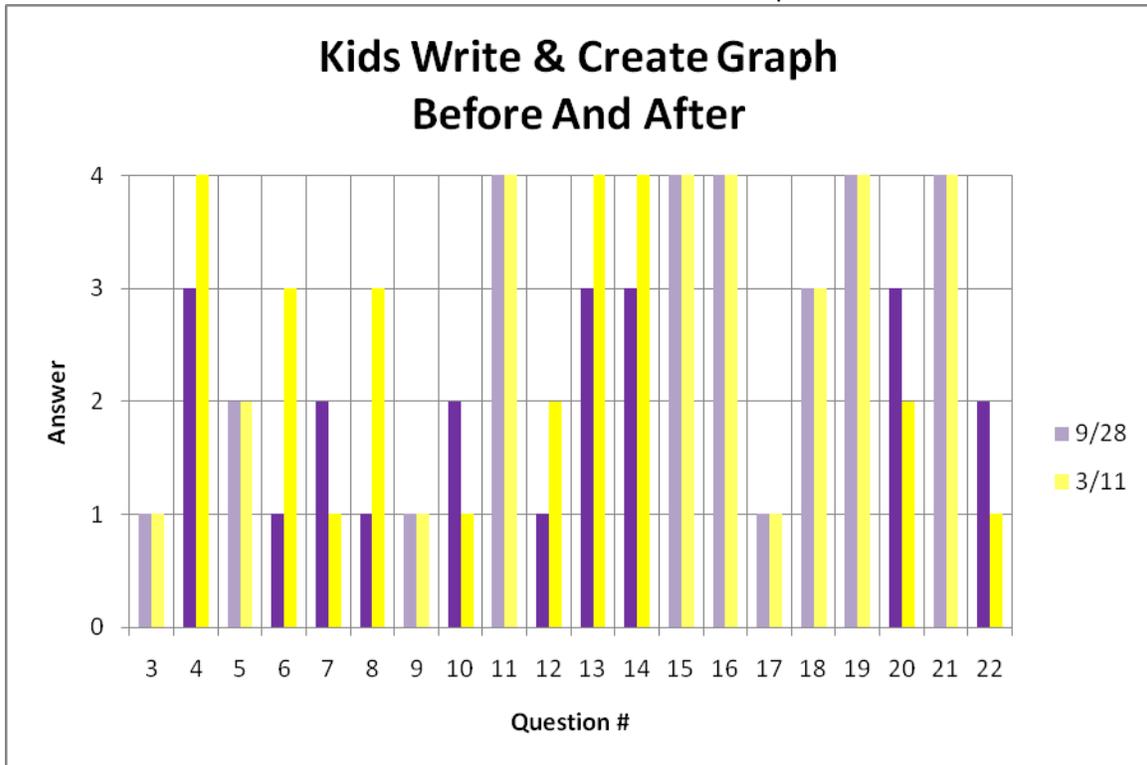
Figure 2.
Kids Write & Create Graph – Pre-questionnaire
The graph below shows the differences in answers from the boy's vs. the girl's with the questions that had the biggest score difference in the pre- questionnaire. There are 7 girls total (including Taylor) and 7 boys total.

Figure 3.
Kids Write & Create Graph – Before and After
The graph below shows the percentage point difference between a answer pre- and post- the
questionnaire for both boys and girls.
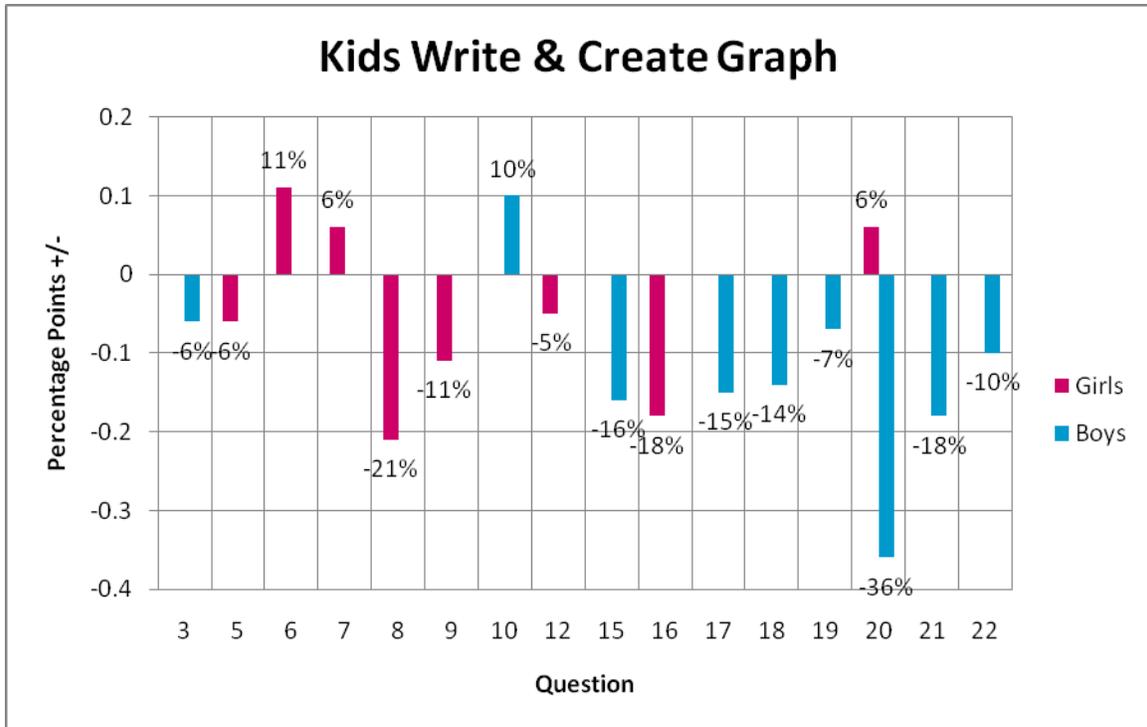
Works Cited

Ahmed, S. T. & Lombardino, L. J. (2000). Invented Spelling: An Assessment and Intervention Protocol for Kindergarten Children. *Communication Disorders Quarterly, 22* (1), 19-28.

American Speech-language-Hearing Association. (2001). *Roles and Responsibilities of Speech-Language Pathologists With Respect to Reading and Writing in Children and Adolescents* [Position Statement], 1-2.

Annett, M. M. (2001). SLPs Urged to Take Action in Literacy. American Speech-Language-Hearing Association, *6* (16).

Casby, M. W. (1988). Speech-Language Pathologists' Attitudes and Involvement Regarding Language and Reading. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools*, *19*, 352-361.

Catts, W. H. (1997). The Early Identification of Language-Based Reading Disabilities. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools,* 28, 86-89.

Catts, W. H. & Kamhi, A. G. (2005). *Language and Reading Disabilities* (2nd ed.). Boston, MA: Pearson Education, Inc.

Chaney, C. (1990). Evaluating the Whole Language Approach to Language Arts: The Pros and Cons. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools*, *21*, 244-249.

Dehaene, S. (2009). *Reading in the Brain*. New York: Viking Penguin Group.

Gillam, R. B., Loeb, D. F., Hoffman, L. M., Bohman, T., Champlin, C. A., Thibodeau, L., Widen, J., Brandel, J., & Friel-Patti, S. (2008). The Efficacy of Fast ForWord Language Intervention in School-Age Children With Language Impairment: A Randomized Controlled Trial. American Speech-Language-Hearing Association. *Journal of Speech, Language, and Hearing Research, 51*, 97-119.

Gillon, G. & Dodd, B. (1995). The Effects of Training Phonological, Semantic, and Syntactic Processing Skills in Spoken Language on Reading Ability. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools*, *26*, 58-68.

Gruenewald, L. J., & Pollak, S. A. (1975). The Speech Clinician's Role In Auditory Learning and Reading Readiness, 120-126.

Haskins Laboratories. *Reading: Research on reading acquisition and reading disablitites.* Retrieved from http://www.haskins.yale.edu/reading.html

Hayiou-Thomas, M. E. Harlaar, N. Dale, P. S., & Plomin, R. (2010). Preschool Speech, Language Skills, and Reading at 7, 9, and 10 Years: Etiology of the Relationship. American Speech-Language-Hearing Association. *Journal of Speech, Language, and Hearing Research*, *53*, 311-332.

Invernizzi, M., Justice, L., Landrum, T. J., & Booker, K. (2004). Early Literacy Screening in Kindergarten: Widespread Implementation in Virginia. Journal of Literacy Research, *36* (4), 479-500.

Krakow, R., Goldstein, B., & Davison, M. D. (2010). Kids Write and Create: A Service Learning Project in North Philadelphia. The ASHA Leader. *American Speech-Language-Hearing Association*, *15* (2), 18-19.

Liberman, A. M. (1996). Speech: A Special Code. Massachusetts Institute of Technology.

Neuman, K. H. (1979). A Team Approach to a Language Based Beginning Reading Program. Language, Speech, and Hearing Services in Schools, *10*, 152-157.

Nippold, M. A. (2010). Back to School: Why the Speech-Language Pathologist Belongs in the Classroom. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools*, *41*, 377-738.

Rvachew, S. (2007). Phonological Processing and Reading in Children With Speech Sound Disorders. American Speech-Language-Hearing Association. *American Journal of Speech-Language Pathology*, *16*, 260-270.

Sanger, D. D., Hux, K., & Griess, K. (1995). Educators' Opinions About Speech-Language Pathology Services in Schools. American Speech-Langauge-Hearing Association. *Language, Speech, and Hearing Services in Schools*, *26*, 75-86.

Shipley, K. G., & McFarlane, S. C. (1981). Facilitating Reading Development with Speech – and Language-Impaired Children. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools, 12*, 100-106.

Skibbe, L. E., Grimm, K. J., Stanton-Chapman, T. L., Justice, M. L., Pence, K. L., & Bowles, R.P. (2008). Reading Trajectories of Children With Language Difficulties From Preschool Through Fifth Grade. American Speech-Language-Hearing Association. *Language, Speech, and Hearing Services in Schools, 39*, 475-486.

Appendix A .
This is the pre-questionnaire from Taylor.

Kids Write & Create
Motivation to Read Profile

Buddy ID# __TM___.   Date Administered __09/24/10__

1. I am in _____.

   ☐ Kindergarten   ☐ 1st Grade   ☐ 2nd Grade   ■ 3rd Grade

2. I am a _____.
   ☐ boy   ■ girl

3. My friends think I am _____.
   ■ a very good reader   ☐ a good reader   ☐ an OK reader   ☐ a poor reader

4. Reading a book is something I like to do _____.
   ☐ never   ☐ not very often   ■ sometimes   ☐ often

5. I read _____.
   ☐ not as well as my friends   ■ about the same as my friends
   ☐ a little better than my friends   ☐ a lot better than my friends

6. My best friends think reading is _____.
   ■ really fun   ☐ fun   ☐ OK to do   ☐ no fun at all

7. When I come to a word I don't know, I can _____.
   ☐ almost always figure it out   ■ sometimes figure it out   ☐ almost never figure it out
   ☐ never figure it out

8. I tell my friends about good books I read.
   ■ I never do this.   ☐ I almost never do this   ☐ I do this some of the time.
   ☐ I do this a lot.

9. When I am reading by myself, I understand _____.
   ■ almost everything I read   ☐ some of what I read ☐ almost none of what I read
   ☐ none of what I read

10. People who read a lot are _____.
    ☐ very interesting   ■ interesting   ☐ not very interesting ☐ boring

11. I am _____.
    ☐ a poor reader   ☐ an OK reader   ☐ a good reader   ■ a very good reader

12. I think libraries are _____.

■ a great place to spend time ☐ an interesting place to spend time
☐ an OK place to spend time ☐ a boring place to spend time

13. I worry about what other kids think about my reading _____.
☐ every day   ☐ almost every day   ■ once in a while   ☐ never

14. Knowing how to read well is _____.
☐ not very important ☐ sort of important   ■ important   ☐ very important

15. When my teacher asks me a questions about what I have read, I _____.
☐can never think of an answer   ☐have trouble thinking of an answer
☐sometimes think of an answer   ■always think of an answer

16. I think reading is _____.
☐ a boring way to spend time   ☐ an OK way to spend time
☐ an interesting way to spend time   ■ a great way to spend time

17. Reading is _____.
■ very easy for me   ☐ kind of easy for me ☐ kind of hard for me ☐ very hard for me

18. When I grow up I will spend _____.
☐ none of my time reading   ☐ very little of my time reading
■ some of my time reading   ☐ a lot of my time reading

19. When I am in a group talking about stories, I _____.
☐ almost never talk about my ideas   ☐ sometimes talk about my ideas
☐ almost always talk about my ideas   ■ always talk about my ideas

20. I would like for my teacher to read books out loud to the class _____.
☐ every day   ☐ almost every day   ■ once in a while   ☐ never

21. When I read out loud I am a _____.
☐ poor reader   ☐ OK reader   ☐ good reader   ■ very good reader

22. When someone gives me a book for a present, I feel _____.
☐ very happy   ■ sort of happy   ☐ sort of unhappy   ☐ unhappy

Appendix B.
Meeting Log- a guideline of what to do each meeting with Taylor

Meeting #1	• Discussion of project and what it was going to consist of • Administration of the interest profile questionnaire and a test to find Taylor's reading level (Both the questionnaire and the test to be administered in her elementary school, an SLP supervising at all times)
Meeting #2	• Start brainstorming ideas on what she could write about and the process of writing a book • Discussion about what she likes to read and when she likes to read • Present tools to help navigate through writing a book such as flow charts and other brainstorming dittos
Meeting #3	• Start writing story • Gather ideas from flowcharts and brainstorming dittos • Draw out how story will flow then start writing sentences to match pictures
Meeting #4	• Continue to write sentences for the pictures and edit them to have them make more sense and sound as best as they can • Start drawing pictures to go into the book • Discuss what an illustrator is and the difference between an author and illustrator
Meeting #5	• Continue to draw the rest of the pictures for the book • Discuss what is written about the author in the "about the author" section of the book • Reiterate that she is the author and write down some ideas about what could be written about her for the "about the author" section
Meeting #6	• Review the pictures she drew scanned into the computer with the corresponding words typed in • Make changes where she wanted to in regards to the font, text size and color
Meeting #7	• Show Taylor all the changes made and have her okay the book for publishing • Discuss what publishing is and how she is going to have a real book out of the story she has written
Meeting #8	• Give Taylor her first published book and re-administer the reading interest questionnaire

Appendix C.
Progress and Comments for meetings with Taylor

Meeting Date/Time	Activities/Progress	Comments and/or Areas of Concern
9/24/2010 10:00-11:00	Administered Motivation to Read Profile. Talked about writing a story.	Seemed to be over confident in herself and rate herself higher in skills than I think she actually is.
11/15/2010 4:00-5:00	Brainstormed and sketched out different story ideas.	Taylor did not know what a narrative was so talked about what one was with her. Seemed excited and willing.
11/19/2010 3:00-4:00	Wrote sentences for one of the story ideas.	Taylor needed help to spell some words and I had pointed out many corrections with capitalizations. Working hard.
12/17/2010 4:00-5:00	Started drawing pictures for the story.	Taylor needed some prompting to come up with some ideas on what to draw. Seemed excited.
1/14/2011 4:00-5:00	Continued to draw more pictures for the story. Talked about an author and got information about her.	Gave more of own ideas with less prompting. Excited to work and worked hard.
2/11/2011 4:00-5:00	Re-read story and gave more supporting details to make the story more interesting. Talked about how she wanted the book to look.	The story is coming together very nicely. Taylor is excited to see the end result.
2/25/2011 4:00-5:00	Finished drawing pictures, looked over the flow of the story and got all the scanned pictures okayed.	Taylor does not seem too picky about the details of the book. She is very laid back about the look of the book.
3/11/2011 10:00-11:00	Re-administered the Motivation to Read Profile. Gave Taylor her book and follow up questions.	Taylor was very excited and surprised with her book. The results from the Motivation to Read Profile were better than expected.

Appendix D.
Taylor's post-Write and Create project questionnaire. This does not include every question, just the ones that changed.

Buddy ID# __TM__.   Date Administered __03/11/11__

4. Reading a book is something I like to do _____.
    ☐ never   ☐ not very often   ☐ sometimes   ■ often

6. My best friends think reading is _____.
    ☐ really fun   ☐ fun   ■ OK to do   ☐ no fun at all

7. When I come to a word I don't know, I can _____.
    ■ almost always figure it out ☐ sometimes figure it out   ☐ almost never figure it out
    ☐ never figure it out

8. I tell my friends about good books I read.
    ☐ I never do this.   ☐ I almost never do this   ■ I do this some of the time.
    ☐ I do this a lot.

10. People who read a lot are _____.
    ■ very interesting   ☐ interesting   ☐ not very interesting ☐ boring

12. I think libraries are _____.
    ☐ a great place to spend time ■ an interesting place to spend time
    ☐ an OK place to spend time   ☐ a boring place to spend time

13. I worry about what other kids think about my reading _____.
    ☐ every day   ☐ almost every day   ☐ once in a while   ■ never

14. Knowing how to read well is _____.
    ☐ not very important ☐ sort of important ☐ important   ■ very important

20. I would like for my teacher to read books out loud to the class _____.
    ☐ every day   ■ almost every day ☐ once in a while   ☐ never

22. When someone gives me a book for a present, I feel _____.
    ■ very happy   ☐ sort of happy   ☐ sort of unhappy   ☐ unhappy

Appendix E.
This is follow-up questions Taylor was asked along with the questionnaire to try and get a better understanding of how she liked the project.

1. Have you read more since starting this project?
   Yes __X__   No _____
2. Did you enjoy making your own book?
   Yes __X__   No _____
3. While doing this project I have felt:
   I feel happy.
4. Seeing my completed book makes me feel:
   It makes me surprised and excited.
5. What did you learn from writing and reading your own book?
   I learned writing a book is fun.