What Are The Benefits of Using Questioning To Scaffold Critical Thinking Skills in Literacy in the Kindergarten Classroom?

By

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A Master's Paper

Submitted in Partial Fulfillment of

The Requirements for the Degree of

Master of Science in Education – Reading

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Major Advisor's Signature

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Date

University of Wisconsin – River Falls

2013

ABSTRACT

The purpose of this action research study is to examine ways to teach, model, guide and scaffold critical thinking mainly through questioning, so that all levels of learners can be immersed and engaged in meaningful, purposeful comprehension work. Can young children learn to think critically and ask questions about what they read? Can they synthesize elements of a story, retaining information to complete a thought at the end of the story? The author used teacher action research to investigate these questions and explore the effects of scaffolding critical thinking while working with sixteen kindergarten students and their parents. The impact of parent involvement has a sound research base attesting to the many potential benefits it can offer in education; however, kindergarten students' ability to think critically and synthesize in conjunction with parental involvement has only recently been investigated. This research presents a model of scaffolding critical thinking skills with kindergarten children, while at the same time increasing the confidence level and literacy skills of the parents. The author created pre and post questionnaires for parents to complete. The pre questionnaire was designed to assess: a) behaviors the parent and child engage in during home reading, b) parents' views on the importance of reading, and c) parents' reading habits. The post questionnaire was designed to detect and document reading behaviors that continued or changed during the course of the study. The sixteen students in this study were also given questionnaires before and after the unit of study. Most students' instructional levels increased by one level (Benchmark Assessment System by Fountas and Pinnell) and in some instances two levels over the course of the study. Gains were made during the synthesis unit of study as well. Parents reported a greater appreciation of the importance of reading in their lives and their child's life. Results indicate

that the largest gains were made in the students' understanding of questioning, including what a question is, and how to implement questioning and synthesis strategies.

INTRODUCTION

Kindergarteners love to ask questions; it's a natural process of learning that takes place for each and every child as they grow up. They are naturally curious and openly wonder. What a perfect time to nurture this innate quality of these children. A student in my class said, "Mrs. Lee, questions make me think, then I read more, cause then I want to find out the answer." Simply put, but so the truth! A classroom where questions are celebrated and modeled will create an environment of critical and creative thinkers. Glaubman, Glaubman and Ofir (1997) state that young children are capable of gaining better skills in self questioning and that they have potential for metacognitive thinking.

The motivation for writing this paper is my ongoing passion for comprehension instruction; anything that we learn comes from understanding, and it's my belief that focus on comprehension needs to drive our reading instruction. Louise Rosenblatt proposes "comes from understanding" as a theory in her Transactional Reader Response Theory (Westbrook, 1997). This theory helps teachers to facilitate the students' exploration of the curriculum by mentoring, guiding, and adapting lessons. It helps the students to be an active participant in making lessons meaningful, and filling in the missing pieces of text with a variety of responses. Teachers can truly enhance the magic of the literacy experience through the use of Rosenblatt's work. Understanding is the foundational piece that we must make sure our students have; if they can understand they will learn and thrive in any content area that they are working in -- they must be able to make meaning out of what they are reading. In my opinion, there is no better time than at the very beginning of literacy instruction so emergent readers can grow into critical

comprehension strategies and use them from the start, and application of strategies becomes automatic and intuitive.

Our school district has been working on implementing critical thinking across the grades and across the curriculum. I was curious to see if kindergarten students could actively participate in this process too. Traditionally kindergarten has been a place for 5 and 6 year olds to learn letters, numbers, social skills, and play. But what would happen if we continued to do those developmentally important things and added a foundation that incorporated making meaning? I wanted to see if kindergarteners could go beyond the literal questions of a story, think deeply, make connections, ask questions, hold pieces of the story and look for change that is taking place and actually analyze it. Can they look at a story from another point of view or find the authors theme or message in the story?

In my classroom students bring home a guided reading book to read with a parent or another adult that they go home to each night. When I initiated this strategy, it seemed like a natural progression to get the help and support from parents in this questioning and critical thinking endeavor. Parents play a significant role in their child's language and literacy development. Parents help to lay the foundation of their children's cognitive growth and their academic success (Anderson, 2000). This seemed like a perfect fit as students would get an extra dose of thinking critically at home and parents would get to see what their kindergartener can really do!

This paper is about my journey of questioning, synthesizing, and promoting critical thinking in the kindergarten classroom, a journey that has forever changed me and how I will nurture each child to move forward in their comprehension. I also want to share this journey that I have been on, so that it may motivate others to see beyond the young child in years and

recognize them as problem solvers and thinkers who can critically analyze and understand text, inviting others to join in on this magnificent journey!

Background and Rationale for this Study

In my experience I have seen a huge increase in what young children can and are expected to do when engaging and interacting with text. The definition of being literate has taken on a different meaning in each decade. In the 70's we read round robin at a table, and I remember counting the paragraphs so I could practice my section before I had to read it out loud, not paying any attention or making any meaning of what was going on in the story. I had one goal, reading smoothly and with inflection so I was the best oral reader in the class. Then we would move to our desks where we would answer questions in workbooks at the knowledge (lowest) level of Blooms Taxonomy. This framework (Bloom's Taxonomy) has stood the test of time as decades of educators have used it in their teaching. There are 6 major categories: knowledge, comprehension, application, analysis, synthesis and evaluation. Knowledge is the pre-curser for getting these skills into practice. These categories build from simple to complex and concrete to abstract. They are arranged progressively from the lowest level of thinking, simple recall, to the highest, evaluating information. An example of the first level (knowledge) would be: Who was the main character in the story? An example of the highest level on Bloom's Taxonomy (Evaluation) would be: Based on what you know, how would you explain . . .?

In the 80's and 90's came the whole language wave where the reader constructs a personal meaning for a text based on using their prior knowledge to interpret the meaning of what they are reading. Unfortunately there was often a lack of structure with whole language instruction, and much was left to the teacher's personal twist on how this looked. Teachers were

basically left to develop their own curricula, and often little cohesive planning took place. Leaving children to sink or swim depended on the teacher they had for the year.

In 2001 came the No Child Left Behind Act. Implementation of this legislation led to Balanced Literacy and data driven instruction where standardized tests guide much of what needs to be taught. Stakes have never been higher as children are expected to critically analyze text and synthesize for meaning. Because more is expected of our students in all grades, the trickle-down theory takes place and more and more is expected of younger children. The higher expectations on young children are the direct result of this mandated testing. Rather than resisting the expectations as some teachers have done, I chose to embrace the change, jump in and make it inviting, concrete, and exciting for my students. I looked forward to the opportunity to create developmentally appropriate instruction that was engaging and exhilarating for both the students and myself. My students haven't disappointed me, and the knowledge of the unique path and pace of every child's learning journey has helped to structure this research.

The following study will describe ways in which children can respond to questioning and create better questions while they read and explain how parents can be involved in supporting critical thinking development at home with their child.

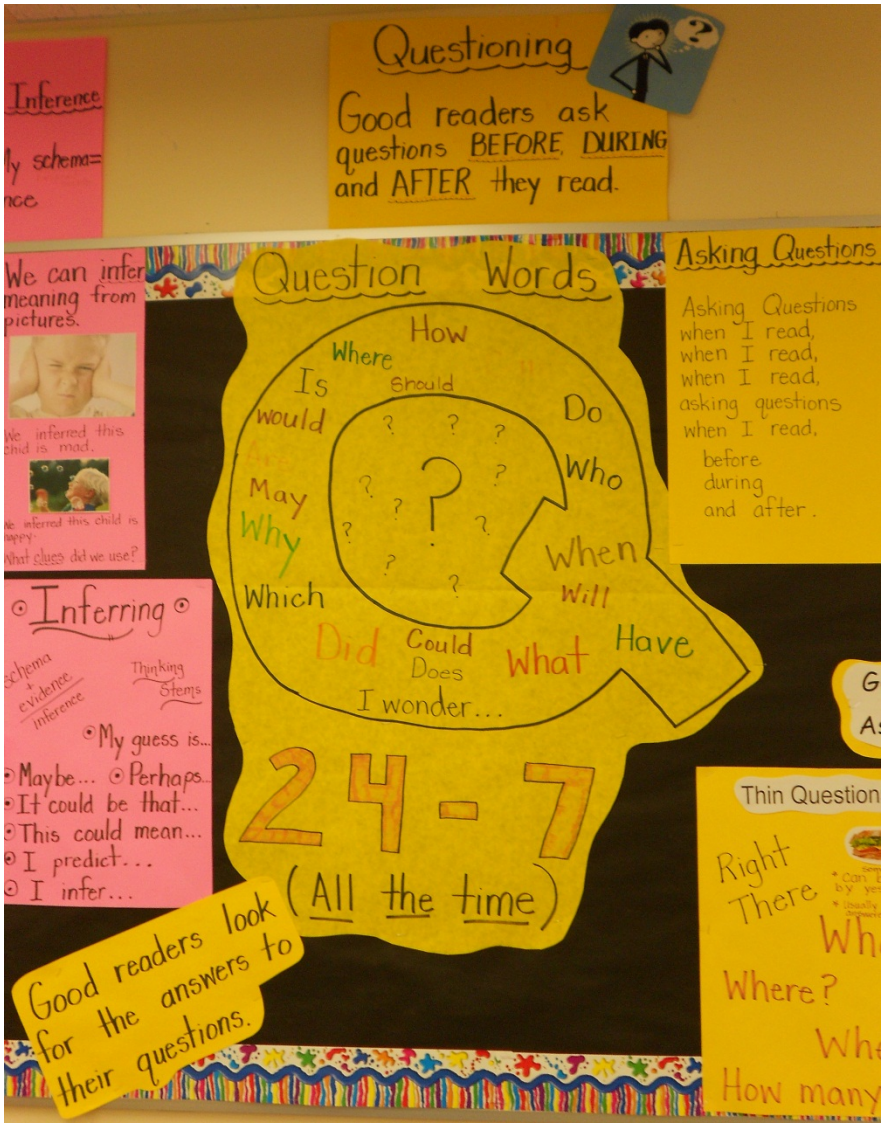
Review of the Literature

What are the ways children can respond to questioning and create better questions while they read?

Glaubman, Glaubman and Ofir note that "researchers have found that self-questioning is an active strategy that establishes and promotes understanding" (1997, p. 361). Thus, teaching children to ask questions and respond to questions is one way we can help children learn to

examine text critically (Dillon, 1988; Gavelek & Raphael, 1985; Singer& Donlan, 1982). Glaubman, Glaubman and Ofir (1997) concurred with the work for Graesser and Person (1982) when they noted that self-questioning "enhances independence and self-direction during the course of learning" (Glaubman et.al., 1997 p. 361). Children are naturally curious and by nurturing this curiosity young children can be guided to learn how to question while they read, through explicit modeling and guided practice by the teacher (Palincsar and Brown, 1982, 1987).

In the article *Kindergarteners Can Do it, Too! Comprehension Strategies for Early Readers,* Anne E. Gregory and Mary Ann Cahill (2010) recommended that anchor charts be used to introduce the strategy and that children are told that thoughtful readers ask questions before, during and after they read a book. An anchor chart (shown here) (McGregor, *Comprehension Connections,p.66*) is a visual journey of thinking and learning which a class has constructed



together. An anchor chart is one way teacher and students can collectively respond to questions, and it can be used to provide visual support to students not quite in control of concepts, create classroom references and define shared understandings of concepts under study. These charts help "anchor"

our thinking as teachers and students can reference them in the classroom when needed. While modeling this strategy Mrs. Hope, the teacher featured in the article, found the children naturally forming more valid questions as they progressed through the story (Gregory, & Cahill, 2010).

Shared Reading is another avenue for teachers to show children how to develop questions and add to anchor charts. Shared Reading is an instructional approach in which the teacher explicitly models the strategies and skills of proficient readers. Shared reading is a collaborative learning activity, based on research by Don Holdaway (1979) that emulates and builds from the child's experience with bedtime stories. The purpose is to teach children the reading process and teach them systematically and explicitly how to be readers. It is an interactive reading experience that occurs when students join in or share the reading of a big book or other enlarged text while being guided and supported by a teacher. It is through Shared Reading that the reading process and reading strategies are demonstrated. Children participate in exploring concepts of how print works, vocabulary, awareness of symbols, predicting, and comprehension (Fountas, & Pinnell, 1996).

This is also a valid time to have children respond to stories through hand signals. Hand signals were used by Mrs. Hope (Gregory, & Cahill, 2010). She developed a way to quietly have her students respond to the text while she was reading based on what they were thinking during the story. If a student had a question, they wiggled their finger like a question mark. If they had a connection they made a C with their hand and if they created a mental image in their head, they made a V with two fingers to show visualization. These students were engaging in meaningful, purposeful comprehension work through active response (Gregory, & Cahill, 2010). In the article titled *Making the Very Most of Classroom Read-Alouds to Promote Comprehension and Vocabulary,* Santoro, Chard, Howard, and Baker (2008, p.407) complement this by stating, "Our

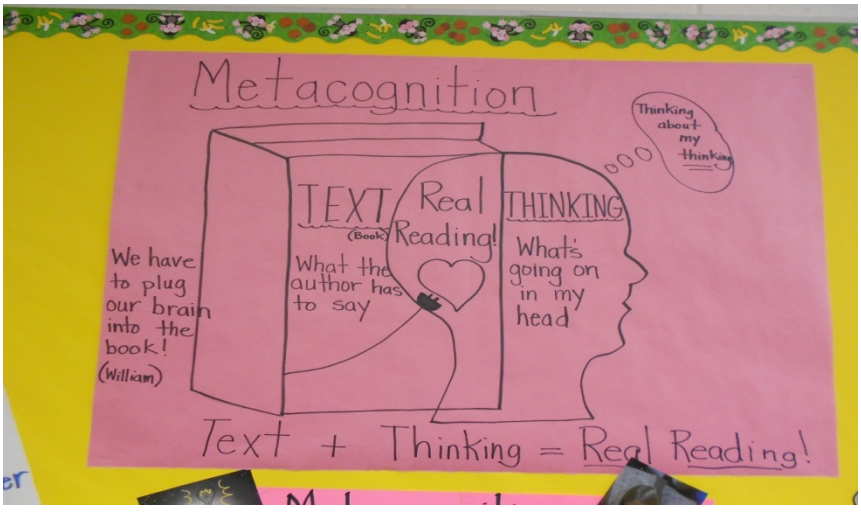
research showed that read-alouds, with explicit comprehension instruction and active, engaging discussions about text, can promote comprehension and vocabulary even as students are learning to read." Block, Parris, and Whiteley share a common interest with Gregory, & Cahill, (2010) as demonstrated in their development of Comprehension Process Motion (CPM), another hand signal strategy. In their study, they found proven benefits of kinesthetic effects of CPM. Lessons were made more powerful, there was immediate feedback on what the children understood, teachers felt more prepared on how to adapt lessons, and an abstract lesson/idea became more concrete for their young learners (Collins, et al 2008). These hand signal strategies could also be taken a step further as students could turn and talk with a neighbor about their question, connection, or visualization to help promote even more thinking and collaboration in comprehension.

A Wonder Box, a 3 by 5 inch file box that a student can decorate to help make it their own, is another way to respond to questions (Miller 2002). Students record questions they have and come across as they are reading and write them on a "Wonder Card" which is an index card that fits into their Wonder Box. As the card is stored, children can then come back to their questions later when they decide which ones they would like to read about and explore further (Miller 2002).

How can I involve parents in supporting critical thinking development?

Helping parents to support their children at home with early literacy and reading is an asset to any child. Significant research has been done on the positive effects of parental involvement during shared readings of homework or books. Birbili & Karagiorgou (2009, p. 20) state, "Parental question-asking behavior relates significantly and positively with children's language and literacy development." In the study *How Parental Involvement Makes a Difference*

in Reading Achievement Sherlie A. Anderson (2000) concurs that student success is the most basic motive for parents to be involved. This basic involvement by parents plays a significant role in nurturing children's academic success and cognitive growth (Anderson, 2000). In addition Anderson points out "Parents reading to children is the best known, most recommended parental practice that is related to positive attitudes and reading achievement." (Anderson, 2000, p. 1). Most children scored higher on reading achievement if parents were engaged and discussed the story with them as compared to children whose parents did not engage in initiated talks while reading with them. Just reading aloud to your child isn't enough; parents engaging children in discussion is key. Parents need instruction on behaviors and strategies that can enable their children to move forward with their comprehension at a deeper level. Parents need to be brought up to speed on strategies, new vocabulary, and lingo that is used. The discussion needs to be more of a conversation of understanding between parent and child about the story, so the child can eventually have this conversation or talk in their head on their own while they are reading when they get older. This talk is called metacognition or thinking metacognitively. McGregor, states that: text + thinking = real reading, which includes using metacognition (McGregor,p.19, 2007). She visually clarifies the concept below:



Educating parents on how to help their child become a better questioner also establishes an effective role-model for students to emulate. Parents trained in questioning techniques make appropriate role-models for this purpose until children feel safe constructing their own. This process of gradual release will help in the growth of students creating their own questions. Maria Birbili and Loanna Karagiorgou (2009, p. 28) agree with Vygotsky (1978) who stated that "imitation is not a mechanical activity but rather an intelligent, conscious act" (Vygotsky 1978, pp. 187-188). The Gradual Release of Responsibility is a research based instructional model developed by Pearson and Gallagher (1983). This model also requires variable amounts of assistance from the teacher and is similar to Vygotsky's Zone of Proximal Development (Morrow, Gambrell, & Pressley, 2003). Teachers use the Gradual Release Model to help move from teachers being in control of all the responsibility for performing a task (demonstrating) to releasing this responsibility over time, to guiding the students and eventually the students take ownership and apply their knowledge becoming capable thinkers and learner where they can work independently. The Zone of Proximal Development is the distance between the actual developmental level (where a student can work independently) as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers (zone of proximal development), which helps them to move to a new zone of actual development having internalized new strategies or thought processes (Vygotsky, 1978). When a student imitates something that has been taught, this indicates that they are working through this gradual release process, they have observed modeling of a task and they are internalizing it as they imitate what they have observed. This is evidence that the teacher may step back and monitor their use of the skill taught and provide feedback when needed. Vygotsky believes that what children can

perform today with help, they will be able to perform tomorrow independently. Much scaffolding takes place as slight adjustments are made within lessons to meet the needs of the students. Scaffolding appropriately challenges students at their ability levels. The challenge for the teacher is to make all tasks, regardless of the scaffolding level, interesting, engaging, and challenging (Morrow, Gambrell, & Pressley, 2003).

Birbili and Karagiorgou from Aristotle University of Thessaloniki, Greece laid out some very important steps to help parents ask better questions while reading with their child. First they had a parent meeting where parents came in and learned first-hand the importance of adults questioning their child during any learning process. In the second phase of the study children brought a self-selected book home from the classroom library and read it with their parent over the course of the weekend; they were allowed to keep the book for a longer period of time if they would like. In the third and final phase, a book came home along with a letter to parents identifying questions that the parents could use to help discuss the story with their child. In the letter that went home there was an explanation of open and closed questions. Open ended questions are questions that are more thought provoking and take more time to think and analyze to find the answer (i.e. why, why not, how, what if, I wonder). A closed question has its place, but these questions are often found right away in a story and are not as thought provoking as an open-ended question and have been found to be overused (i.e., how many, who, where, when). The letter also reiterated discussion points from the parent meeting and the powerful tool they had in asking questions to help their child to move forward in their understanding of the text (Birbili & Karagiorgou, 2009).

Anderson reinforces the importance of parental involvement by saying, “Parents are a resource that must be tapped to the fullest” (Anderson, 2000 p. 4). Anderson initiated her study

by sending out a questionnaire to the parents to find out their ideas about reading and their child's experience with reading at home. In her findings, 16% of parents read to their child on a daily basis and they realized reading was important, 50% of the parents questioned felt they were good role models by reading in front of their child. The students were given an Elementary Reading Attitude Survey, and their classwork focused on silent reading comprehension and vocabulary. Each week for six weeks the parents of her students had small assignments to complete. Week #1- 100% of the students read to their parents, week #2- parents were to take their child to the library, 5 students out of 30 went. During week #3 the students were to read a recipe with their parent, one child complied. During week #4 students were to read a list of words until they could read them fluently. No one in the class knew all the words. Due to the low numbers of participation, weeks 5 and 6 were not attempted. This brings up a very strong point that must not be overlooked, no matter what the family dynamics are (one parent, two parents, rich or poor), parents are the first educators and their child's success begins at home and continues for the next 18 to 19 years (Anderson, 2000). This study was conducted in Head Start Centers in south eastern New York, and members of this sample were low-income house-holds. Some key factors that came into play were parent education, parent's age, child's age and family size. Parent education was the strongest indicator of positive family reading behaviors. Higher levels of parent education and older parents showed greater interest in reading and an increase of parent-child interaction. The quality of the home literacy environment can be impacted by poverty which in turn has an effect on access to resources such as time for language rich experience, time for shared reading experiences, time for reading support, books, magazines etc. Lack of access to resources can impact a child's academic growth. (Bracken and Fischel, 2008).

Anderson goes on to say, “Education is a middle income concept, it is going to take money and time to invest in this worthy cause” (Anderson, 2000 p. 8). We must continue to look for resolution to poverty, welfare, family crises and reading difficulties, when these difficulties arise in families “survival becomes more important than improvement of the mind” (Anderson, 2000 p. 8).

Can kindergarten students acquire, understand, and maintain or hold knowledge to synthesize through text?

Ellin Keene defines synthesis as “ about organizing the different pieces to create a beautiful mosaic, a meaning, a beauty, greater than the sum of each shiny piece” (Keene, & Zimmerman, 1997 p. 229). When explaining synthesis to children the analogy of a puzzle is often used as pieces of text and thinking are put together to gain a greater knowledge or different perspective on thinking that has changed. This analogy can also be conceptualized as each piece has a comprehension strategy on it and when they are pieced together and used together synthesis takes place. Synthesis is a higher level of thinking in Blooms’s Taxonomy that requires readers to bring together parts of knowledge to form a whole and build relationships for new situations. When readers synthesize they are required to use several levels of Bloom’s Taxonomy including knowledge, comprehension, application and analysis. Conningham and Shagoury state that, “Synthesizing is one of the most complex strategies that readers use to spiral into deeper layers of meaning. Readers ‘hold’ their thinking as they progress through a book. In other words, they keep track of how their thinking is evolving, using their schemas to make inferences. They come to view the book and the world through new lenses” (2005, p. 56). A student in my kindergarten class put it best by saying, “we just keep adding on and adding on to our thinking. It got bigger and bigger and bigger, and now we totally know what the book is all

about." Schneider affirms this student's perception when she says, "Primary grade students are capable of surprisingly complex thoughts and often have insights beyond the realm of teachers' expectations. This is, in part, due to the fact that very young children are less bound by preconceived limitations, are typically more open to the wonder of the world, and in most cases, sincerely believe that all things are possible." (2002, p.2).

Explicit instruction on synthesis was used by the classroom teacher along with anchor charts, modeling, mini-lessons, guided practice, shared reading and a continuation of hand signals to introduce and teach synthesis. This is a more natural progression of digging deeper and expanding what teachers are trying to accomplish in their classroom . . . a better understanding of what we read. In the article titled *Teaching for Synthesis of Informational Texts with Read-Aloud*, Cummins and Stallmeyer-Gerard used a similar approach to extend emergent students' thinking. They used three instructional approaches: explicit instruction on synthesizing, interactive read-alouds, and think-aloud mini-lessons. In their explanation of synthesis they used the analogy of baking a cake. As we read a book and gain more understanding we change our thinking, just as the cake takes on a changed appearance as it goes through the process of becoming a cake (Cummins & Stallmeyer 2011). They used this analogy to help them work through a story and create an anchor chart to help reinforce their thinking and learning. During shared, reading Cummins and Stallmeyer examined student responses and shared them with others in the class to help make this journey concrete. Their continued focus was on expanding their students' understanding of synthesis. Working through their peers' responses helped the whole class to move forward, showing areas for growth and their strengths (Cummins &Stallmeyer 2011). Having students respond to the text is a way to foster independent growth and the development that is taking place in synthesizing through the text.

This information then can be used to plan and teach to the needs of the students in the classroom, to scaffold the learning that is taking place.

Conclusion

Research indicates that if modeled and explicitly taught questioning strategies, young children can ask appropriate questions, respond to questions and create questions. When given an opportunity they can also display critical thinking skills through synthesizing and communicate that through verbal, written and hand signal use. Parental involvement in their child's education has been proven to significantly and positively impact their child's literacy development. Parents are their child's first educator and when partnered with the classroom teacher we have created a team that is potentially very powerful.

Methodology

I chose to dig deeper into questioning as our district already includes this strategy in kindergarten, and I felt that I could make this study even more meaningful by including synthesis. Anchor charts are a natural way for learning to develop and I found it helped to confirm our learning journey in the classroom and created a permanent fixture in our classroom that the children could refer to when needed. I was also intrigued by my research on hand signals and the use of hand signals for comprehension and was surprised to find that my students were more engaged and eager to share with a neighbor or with the whole class what their thinking was. I found it amazing that multiple strategies were being used at one time during a story in five and six year young heads. Getting young children to think critically and use those higher levels of Bloom's Taxonomy should be a goal all educators have. Young children haven't been told that they can't do something yet, so they are very responsive and want to please; my experience has been that they will always try to do what you ask. Some of the research I had

done on parental involvement was not positive so I was initially scared off, but I was pleasantly surprised to find the parents of my students warmly embraced the concept and were looking for more things they could do with their child at home.

Kindergarteners are being asked to do more which is connected to how the definition of what it means to be a literate person in our society has changed. Technology has changed this definition but so has increased focus on critical thinking and the expectations that are required at a very young age due to state and district testing. The change in policies and the change in what it means to be a literate person has caused a shift in not only what we teach, but how (strategies as tools): self-questioning, visuals (anchor charts), shared reading, kinesthetic connections, etc. Parental involvement is truly key; parents who show an interest and help to guide their children with homework have been proved to have a positive impact that goes way beyond just listening to their child read to them. By explicitly teaching upper level comprehension skills, the higher end of Bloom's Taxonomy (synthesis and analysis) we are allowing young children the opportunity to deepen the work of meaning making in text. The bottom line for all this research was if young students can make meaning of what they are reading they are developing the skills they will need so they can have success in life. Poverty, mandated tests, changes in policies, higher expectations, can be mitigated if educators provide the tools that build understanding of how to think critically early on in student's lives. Having parents involved and supportive is added icing on the cake!

I have such a strong passion about teaching children how to read and comprehend at the same time. I don't want educators to make excuses, put up a wall, or say that kindergarteners are too young to do it. I see each young child as a blank slate, ready to be filled. Reading, writing, and comprehending need to be nurtured together; they all complement one another.

The above research sparked my interest and encouraged me to explore to see if young children could really dig deep and critically think through text using questioning and synthesizing. This laid the foundation for the following questions to guide my research:

- What are the benefits of using questioning to scaffold critical thinking skills in the kindergarten classroom?
- What are the ways children can respond to questioning and create better questions while they read?
- How can I involve parents in supporting critical thinking development?
- Can kindergarten students acquire, understand, and maintain or hold knowledge to synthesize through text?

After reviewing and reflecting on the above questions I defined the purpose of my action research to look at the benefits of using question and synthesizing to scaffold critical thinking skills in a kindergarten classroom.

Methodology – Participants and Setting

The 16 students in my kindergarten classroom, 9 boys and 7 girls, participated in this study. This study took place in my kindergarten classroom. All students speak English, 15 students are Caucasian and one student is African American. Four of my students are on IEP's (Individual Educational Plans) for speech, two of whom receive additional services for fine motor help. I receive help from our Reading Resource Teacher and that help varies depending on the needs in our kindergarten as a whole. Sometimes during the year our Reading Resource Teacher comes into the classroom, and other times she pulls the students out depending on need, behaviors, and lessons taught. We also have an AmeriCorps Volunteer who comes into our classroom and helps on a daily basis too. Progress monitoring is ongoing so that those students

who really need the extra help in Language Arts are receiving it. Our kindergarten is housed in a small building in the adjacent unincorporated town, about three miles from our elementary school. We have two pre-K classrooms (which hold a.m. and p.m. sessions) and four kindergarten classrooms, (approximately 15 students in each class). They come to school all day Monday through Friday.

All students came in at an A or pre A level based on the Fountas and Pinnell Benchmark Assessment System at the beginning of the school year, so there were no readers coming into my classroom in the fall. There were 4 students who did very well at the beginning of the year with our baseline assessments which included letter recognition, sounds, segmenting and blending. They moved quickly with concepts of print, sight words and right into reading. The class as a whole moved quickly with letter identification and sounds; by the second trimester only two students didn't know all their letters and four students didn't quite have their sounds. Children were grouped flexibly for guided reading and groups changed depending on the skills/strategies taught. Children were taken at their current level and nurtured to help them gain skills and confidence to move forward with their reading. Guided reading groups were met with almost every day with the lowest children meeting each day. Children had daily opportunities to collaborate as a class in small group settings (guided reading and writing groups, literacy stations) and individually (interventions).

Challenges that I see with my class are language based; a fourth of my class receives services for speech, and I have seen this deficit negatively impact communication in writing and speaking. Some students come to school without their guided reading books that were sent home the previous night and/or their guided reading logs were not signed, so I do wonder about the support some of my students receive at home including proper meals and homework time.

According to Wisconsin's Information Network for Successful Schools (WINSS) our school community ranges from 25% to 40% economically disadvantaged. Ethnically we currently have 5% African American, 3% Hispanic, and 2% American Indian as far as cultures that are represented in our school community. 16% of the children in our school have disabilities and 99% are English proficient.

Methodology – Materials

The materials used for this project came from my classroom; guided reading books were used and carefully selected for their instructional level. I used specific children's literature (*The Scrubbing Machine* by Joy Cowley and *Brave Irene* by William Steig, and others) to help with lessons on questioning. For synthesis the literature used was *Peter's Chair* by Ezra Jack Keats, *Amazing Grace* by Mary Hoffman, *Smokey Night* by Eve Bunting, *The Littlest Matryoshka* by Corinne Demas Bliss and *Charlie Anderson* by Barbara Abercrombie. Surveys found in Appendices A, B, and C for parents were used before and after the unit was taught. Fiction, non-fiction, and Digging Deeper (synthesis) book marks were created and sent home to help parents with their questioning skills. The book *Comprehension Connections, Bridges to Strategic Reading*, by Tanny McGregor was used to help make abstract ideas more concrete for the younger children. *The Benchmark Assessment System* by Fountas and Pinnell (2008) was used to determine pre and post instructional levels based on comprehension, word accuracy, and fluency. The Benchmark Assessment System helps educators to find their students' instructional and independent reading levels, and word accuracy, fluency and comprehension are all factors that help to determine a student's reading level. (Appendix D)

Methodology - Procedures

Before instruction began I interviewed each student and asked four questions about questioning. Those questions were:

- What is a question?
- How does questioning help us as readers?
- Can you list some question words?
- What is the difference between a thin question and a thick question?

I also administered the Benchmark Assessment System by Fountas and Pinnell on each student to find their instructional reading level; this assessment determines their instructional level based on their comprehension, fluency, and accuracy. Typically at the beginning of the year we don't expect kindergarteners to be on this continuum; they are only placed if they are reading. Most children entering kindergarten are working on concepts of print like: the print tells the story, where to begin reading in a book, tracking print left to right, one to one correspondence with words as they are spoken, the difference between a letter and a word. By the end of the year our district's goal is to have all kindergarten students at a level D or above according to Fountas and Pinnell's Benchmark System (Appendix D). Throughout the course of the year teachers nurture children's reading skills and make a plan to help guide them to the year-end goal of reading at level D or above. Realistically this does not always happen, and the first grade teachers then take the students where they are and continue on this learning journey in reading. I also had the parents fill out a parent questionnaire/survey (see Appendices A and B) which reflected the behaviors they have with their child at home when they read their guided reading books each night, and it gave me an idea of how parents feel about reading and how much of it happens at home.

I taught several lessons on questioning, the first on what a question was. The gradual release method was used to introduce all concepts in this unit. We made several anchor charts (see Appendices E, F, G, H) to reference and learned that questioning helps our minds to stay engaged, it helps us to be more thoughtful readers, we tend to pay attention to the story better so we can make sure the story makes sense, and it helps to make the story more interesting. We also learned that good readers ask questions before, during and after they read a book. We are constantly looking for the answers to our questions. This brought us to lessons on thick and thin questioning. The children learned that thin questions are questions that can be answered quickly and we don't have to think real hard about the answer, the answer is usually right there. Thick questions are questions that cause us to stop and think; sometimes we even need to search for the answer and sometimes the author doesn't give you the answer, the answer has to be inferred. These questions are higher level Bloom's Taxonomy questions. We need to ask questions all the time!

We worked on questioning during guided reading too; the retelling of a story (Appendix I) and finding creative and exciting ways to do this makes a key skill interesting again for the students. Being able to retell a story has always been a very key component of a student's comprehension success. Bookmarks were made for fiction and non-fiction stories with appropriate questions on them and were sent home as an at-home component to help parents while they read with their children (Appendix J, K, L) The last week of the study students brought home activities to go with their guided reading books to be completed with their parents. Parents filled out a final questionnaire/survey and evaluated the activities that went home and the bookmarks they incorporated into the guided reading homework.

At the end of my one-month study I again measured the students' success based on the Fountas and Pinnell Benchmark Assessment System scores for their reading, as I did before I started this unit. I again interviewed each student and asked them the four questions that I asked at the beginning of the unit to see if growth had taken place.

A similar course of events played out in the implementation of my synthesis research. The research on synthesis took place during the last four weeks of school. We did not do a pre and post assessment of synthesis because I didn't have any students who could answer my driving questions at the beginning of my unit of study: What is synthesis? What happens when we synthesize through a story? How is synthesis like a group of nesting dolls or an onion? What does the theme or author's message of a book mean?

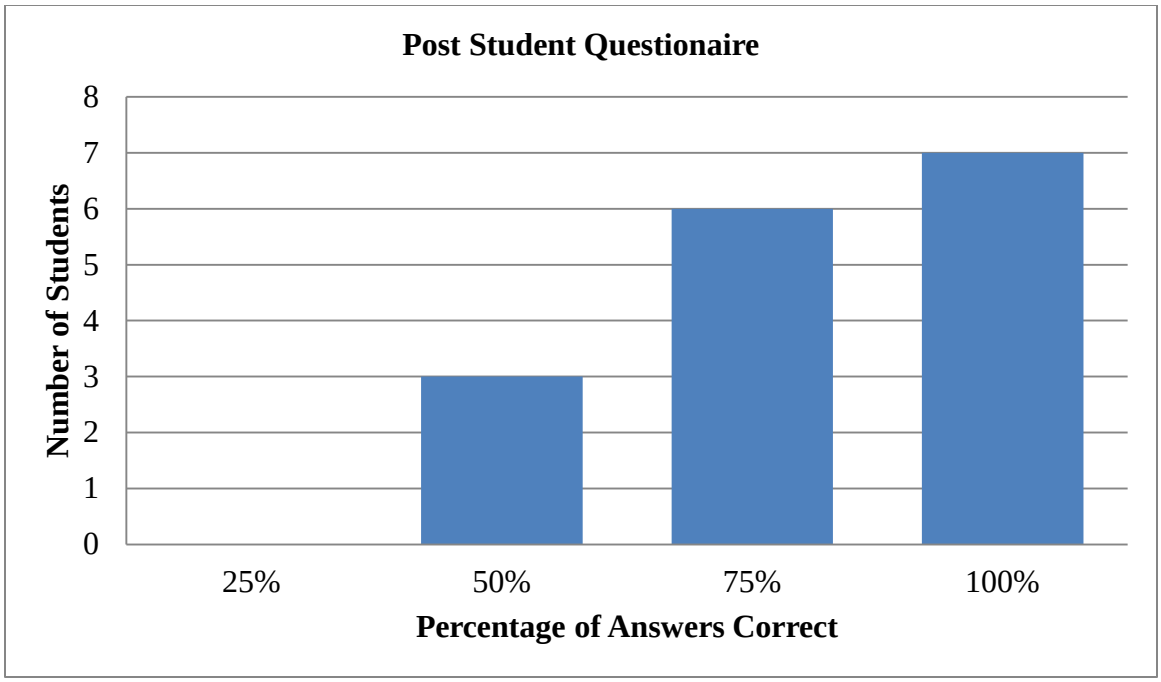
The Benchmark Assessment System by Fountas and Pinnell was again used at the end of the school year to show growth after the four weeks of our synthesis unit and to show the growth from the beginning of the school year to the end.

Lessons were taught on synthesis including creating anchor charts to help show our growth in the learning process of synthesis. Synthesis was defined and continually reviewed as we learned that we have to 'hold' the story in our head as we read, new information is continually being added to what we already know. We created a *Synthesizing Sam* (poster of what we do when we synthesize) (Appendix M) so we know what to do when we are asked to synthesize. We read a story called *The Littlest Matryoshka* by Corinne Demas Bliss and connected to an analogy of what happens with our thinking. Our thinking changes as we read a story just like the dolls get larger and larger in size. The dolls interweave as they fit into one another, just as our thinking should as we red through a story. We also enjoyed creating Synthesizing Circles (Appendix N and O) to show all the thinking that changed when we read a

story and apply synthesis to it. In the heat of our work we were trying to write down what happens when we synthesize. We realized our thinking sort of turned into a poem, quite by accident. We liked the bounce and rhythm the words created! (Our thinking: changes, grows, expands, explodes, builds, stretches, SYNTHESIZE IT!) We learned a new song called *Synthesize*! by Tanny McGregor and worked on trying to find the author's message or theme in a story. This proved to be difficult for most of the students in the class. Those who were reading above an H (students 2, 4, and 8 in the upcoming graph of pre and post Synthesis study) in guided reading had the most success in understanding theme or author's message, but still needed guidance along the way.

Findings and Results

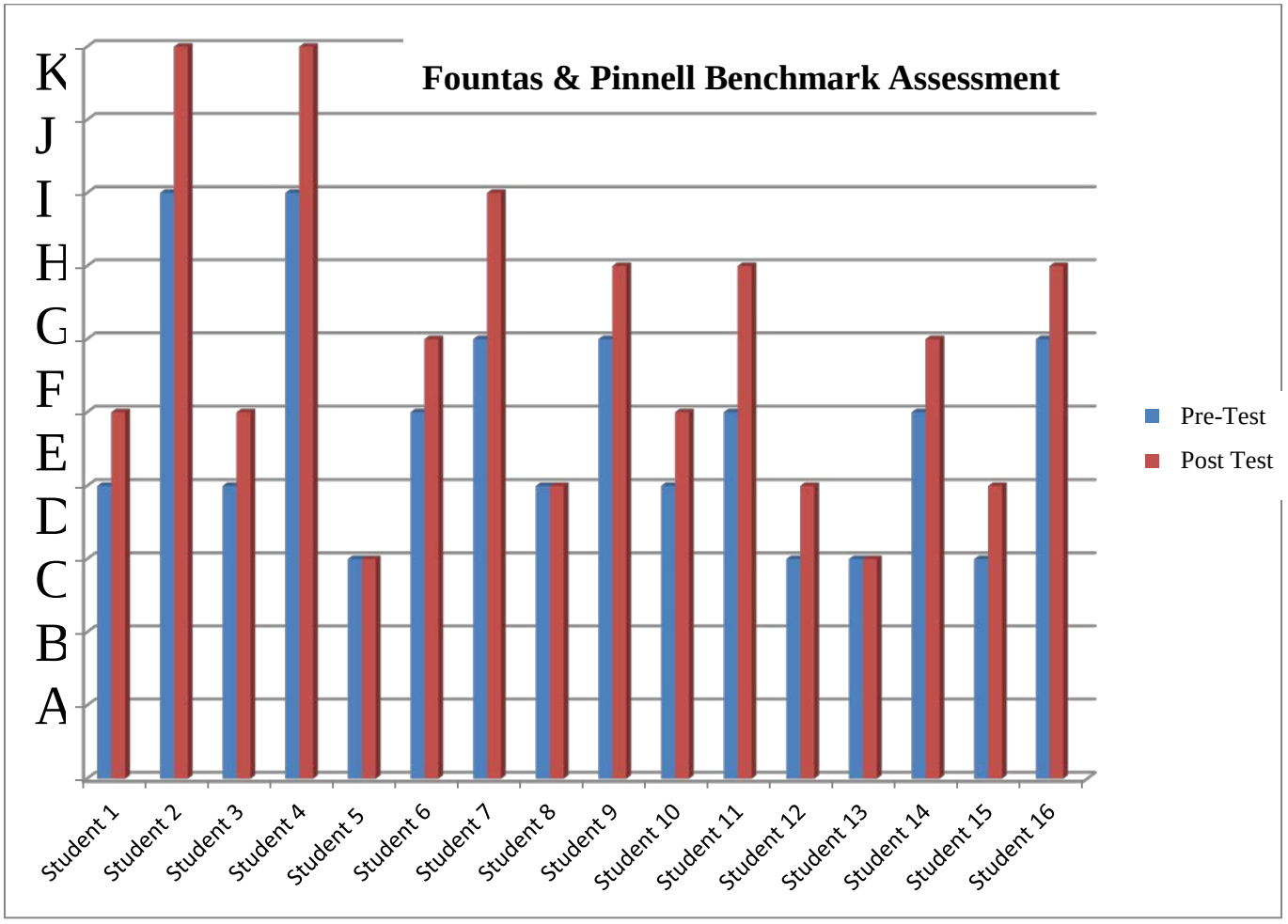
The graph below shows the results of the post questionnaire of the four questions that were asked before and after the questioning unit was taught. No graph was made for the pre-test as only a handful of students knew what a question was and all the other questions the children did not have answers for. The four questions asked were: What is a question? How does questioning help us as readers? Can you list some question words? What is the difference between a thin question and a thick question? At the conclusion of our Questioning Unit, seven students got all four questions correct, six students got three out of the four correct and three students got two questions or half of the questions correct.

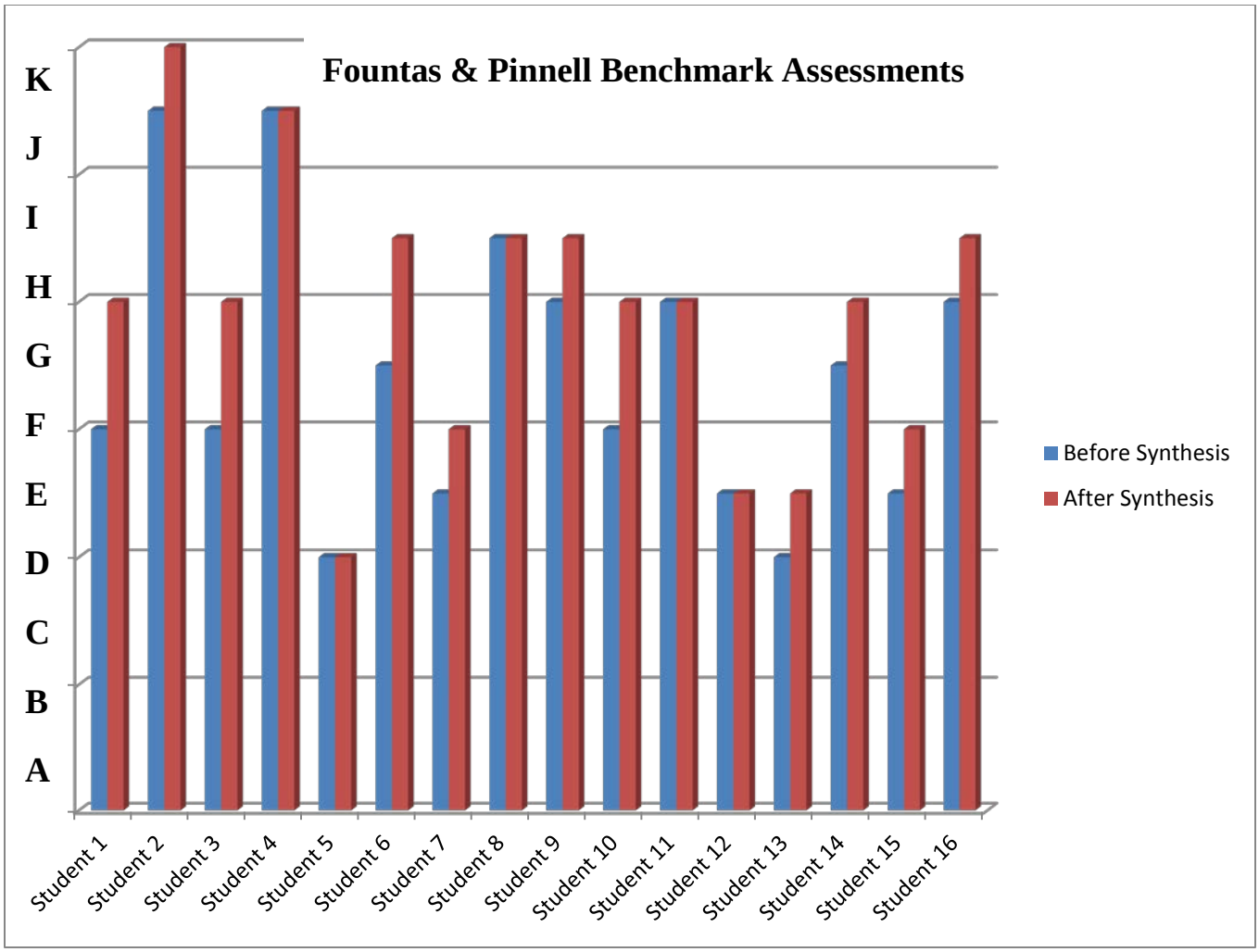


After four weeks of work with questioning the students were then tested again using the Benchmark Assessment System (BAS) by Fountas and Pinnell (2008). Below you can see the results of the pre-test and the post-test. Most students gained at least one level instructionally over the course of the month. Four students gained two levels and three students made no gains. Interestingly those three students were also the students in the previous graph who only answered 50% of the questions correctly. This is where I feel differentiation is so important; the three students who made no gains were maybe not ready for the intensity or difficulty level of the Questioning Unit and needed more time to practice and work through the Gradual Release Model. Leading students through this process during guided reading is a great opportunity to continue working on these skills.

The second graph is the data that was collected before and after the Synthesis unit was taught. Again the Benchmark Assessment System by Fountas and Pinnell (2008) was used and some students gained one and two levels in their reading over the course of one month. I also had five students who did not make progress with the addition of synthesis work. I attribute

some of the lack of growth due to the fact that it was the end of the school year and they were ready to be finished. We really worked hard up until the very last day of class finishing with baking a chocolate cake for all our hard work on Synthesis. I feel the end of the year is a great time to teach Synthesis in kindergarten; it would be difficult to teach it much earlier as there is so much foundational groundwork that needs to be laid before Synthesis can be introduced. However, I think I would not wait until the last four weeks of the school year, but the last quarter of kindergarten could be an appropriate time to deliver explicit instruction on synthesis.





Parental Involvement Results

100% of parents returned the permission slip for the research project the next day! 100% of the parents returned the initial parent survey. 15 out of 16 parents filled out and returned the post survey. All parents participated in using the bookmarks and worked with their child on the follow-up critical thinking activities. Some comments made by parents were:

> "Mrs. Lee has done a great job implementing reading strategies into her curriculum."
>
> "Send home more books that she enjoys, she doesn't always want to read if she doesn't like the book."

"Keep on the path that she is on! She has learned so much this year!"

"More questions and activities would be helpful."

"My child loves to read, thank you!"

"It would be fun to do more activities with the guided reading books. We really enjoyed them and it was a fun way to get kids thinking about what they have read!"

All parents in the post survey answered "yes" to the following 5 questions that were on the survey:

1. Did you find the fiction and non-fiction bookmarks helpful?
2. Would you or did you keep the bookmarks for future use with other guided reading books?
3. Did you find the reading activities that came home helpful?
4. Would you be interested in having more bookmarks or activities come home?
5. Were the bookmarks and learning activities helpful in guiding your questioning and discussions with your child about the books they were reading?

A few of the literature reviews I explored held me captive thinking about family involvement and the lack of success in their projects they had done; authors Birbili and Karagiorgou stopped their parental interaction due to a huge drop off in participation. This brought me to wonder if their projects were too difficult. Did the parents of these students have difficulty with literacy themselves? Did the teachers continue to touch base with students and encourage and motivate them to continue in the project? Was there clear communication between the parents and the instructors? I had just the exact opposite happen-- parents were excited, energized and wanting more activities to do with their child. This leads me to believe that yes, educational instruction can be very different from how

most parents learned, but we need to help parents to understand that they can still help their child at home, feel successful, and cherish the memories of the learning journey. They may be apprehensive to help their child as they are not truly sure what to do and how to do it. By gently guiding and slowly introducing activities they can do at home, an increase of parental involvement took place. They felt success just as their child felt success!

Analysis of Results

81% of my students moved forward with their reading comprehension based on the Benchmark Assessment System by Fountas and Pinnell. 81% of my students answered the post questions correctly. Engagement increased in my classroom, Read to Self time in my classroom almost doubled from 15 to 28 minutes daily that they were able to stay engaged with their books. It appears that enjoyment increased immensely as students are now having conversations with friends about their books and self-selecting books as they want to choose something they are interested in. The children appeared to enjoy making recommendations to their friends. I witnessed on several occasions children recommending a book to a friend and writing down in their note to their friend why a book would be a good read and why they think their friend would enjoy it. I have seen children write questions spontaneously in their writer's journals and observed that they can formulate a question better when we have guest speakers come into the classroom. They can now come to their guided reading group prepared with a question for their small group to discuss and look forward to searching for answers to the questions they have before we read a book together. One of the most exciting things that I observed over the course of the last month of school was my class taking questioning to a new level and bringing it into math. For example, we do a Data and Survey Unit at the end of the year, and I was very impressed with how my class critically looked at and analyzed the findings of certain survey

questions. This led them to take play time and go around and take surveys of the students in our class like "would you prefer to eat a chocolate chip cookie or have a bowl of ice cream?" They would tally or draw the results and then make a graph out of grid paper to show their findings. None of this would have taken place if explicit lessons on the upper levels of Bloom's Taxonomy hadn't been done.

Conclusions and Implications

To borrow a term from the decoding debate, comprehension instruction should be "balanced." Good comprehension instruction includes both explicit instruction in specific comprehension strategies and a great deal of time and opportunity for actual reading and discussion of text. In my research I specifically explored benefits of using questioning to think critically, ideas to help young children create better questions while they read, ways children could respond to questioning, how to get parents involved to support critical thinking, and ways to help the young child understand synthesis.

Research reviewed suggests that instruction, teacher modeling, group practice, individual practice, and individual coaching from parents create an environment for students to learn and benefit from in the following ways:

- Most students understood what a question was and how questions help us as readers.
- They were able to generate question words to start a questions sentence.
- They could understand the difference between low level questions on Bloom's Taxonomy compared to a more in-depth or higher level, thought-- provoking question.

The students in my class benefited from this study by having more quality engaged reading time with their parents, and parents felt success too, as they gained knowledge about how to help their child at home. 81% of my students moved forward with their reading comprehension based on the Benchmark Assessment System by Fountas &Pinnell, and engagement and enjoyment also appeared to increase according to an increase in Read-to-Self time and the choices that students were making in my classroom. My research supports these findings and reinforces the concept that several important features of good reading instruction need to be present to build critical thinking and the questioning and synthesis skills that support critical thinking. The features included and supported by my research are:

- An environment rich in high-quality talk about text.
- An explicit description of the strategy and when and how it should be used.
- Teacher and/or student modeling of the strategy in action.
- Collaborative use of the strategy in action.
- Guided practice using the strategy with gradual release of responsibility.
- Independent use of the strategy
- Support from home (home component)

The model of comprehension instruction provided in my research does more than simply include instruction in specific comprehension strategies and opportunities to read and discuss texts; it connects and integrates these different learning opportunities with children's parents--their first teachers. Intentional instruction to develop critical thinking provides students with another avenue to work and practice, and offers opportunities for parents to nurture and support their children's deeper understanding of the text. Bloom's Taxonomy isn't a new concept; my

students' parents used it in some form as they were in school. However, knowledge of the way we can implement strategies derived from Bloom's framework with today's children has drastically changed. From my experience as a student and a teacher I have realized that many of these comprehension strategies were used in earlier decades, but they have now become more defined and students are now expected to use, discuss and point them out using critical analytical thinking. It is considered "best practices" to guide our children to use those higher levels of Bloom's Taxonomy to help to make meaning from their text.

No comprehension activity has a longer or more pervasive tradition than asking students questions about their reading, whether this occurs before, during, or after the reading. Research has revealed much about the effect of asking different questions on students' understanding of a text and that students' understanding can be readily shaped by the types of questions asked. My research asks the important questions of (a) whether students can learn to generate their own questions and (b) what impact does parental involvement have in supporting critical thinking development? My research reveals positive and encouraging results in both these areas. With continued modeling and practice students can generate their own questions that can go beyond the literal level of comprehension. We want students to be able to construct knowledge and be involved in their learning process, and when we teach with strong, purposeful instruction, students learn. Parents want to and will help their children if they know what to do and are given the necessary tools. We can't let poverty or anything else stand in the way of literacy; we must provide access and opportunities for all children and parents to find that success. This process must be practiced, revisited, and nurtured on a daily basis and interwoven into other areas of the curriculum like social studies, science, and math in order for it to blossom.

This study provided me with the opportunity to:

- Research comprehension
- Assess the comprehension environment in my classroom
- Look at ways to increase parental involvement
- Share out with other educators and colleagues
- Continue my drive and passion that comprehension must be taught when children are first learning how to read.

The element of digging deeper beyond literal questions with young children created for a journey I have never been on before. I hope I can continue to keep the candle lit in these young minds instead of blowing it out; we must not lose the wonder of learning gained in the foundational years where questioning is an innate act.

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Appendix A
Reading Survey for Parents (page 1)

Reading Survey for Parents
Mrs. Lee's Kindergarten Students

Part 1 – Parent as a Reader

1. Do you enjoy reading? (circle one)

often	sometimes	never

2. What do you read? (circle all that apply)

magazines	newspapers	novels
informational texts	nonfiction	other

3. Does your child see an adult or older reader in the family read?

yes	no

4. Do you or another adult or older sibling read aloud to your child?

yes	no

5. Where is your favorite place to read?

6. Who are your favorite authors?

7. What have you read that changed you in some way? How?

8. Did you enjoy reading as a child?

yes	no

9. Would you be willing to work with your child at home to build critical thinking skills through guided reading?

yes	no

Appendix B
Reading Survey for Parents (page 2)

Part 2 - Your child as a reader

1. Does your child enjoy reading?

Often	Occasionally	Not Much

2. Does your child read at home?

Often	Occasionally	Not Much

3. Where does your child like to read at home?

4. When does your child read at home?

5. Does your child choose reading as an activity at home?

yes	sometimes	no

6. Does your child bring a guided reading book home regularly from school?

yes	no

7. Please check the box(es) that apply. Does your child read their guided reading book/s:

Because they want to	
Because they are expected to	
Because you ask them to	

8. Do you think your child would benefit from bringing home a manageable activity/questions to go over with the new guided reading book he/she brings home? (please comment)

9. Is there anything Mrs. Lee could do to make reading more interesting/enjoyable for your child? (comment on back if needed)

Appendix C

Reading Survey for Parents (End of Study)

April 4, 2012

Dear Parents,

Thank you so much for all the work you have helped your child with and for participating in my action research. This past week I have been reassessing the children to discover the growth that has taken place. I am very pleased, and thank you again for reading with your child each night. It makes a huge difference in their success. All the children are where they need to be at the end of kindergarten or farther. ☺ Nice Work!

Would you please help me finish up with this final questionnaire? Please send back after our Easter Vacation. Thank you so very much!

**Please feel free to write comments in the spaces provided after each question.

Did you find the fiction and non-fiction bookmarks helpful?

yes	no

Would you or did you keep the bookmarks for future use with other guided reading books?

yes	no

Did you find the reading activities that came home helpful?

yes	no

Would you be interested in having more bookmarks or activities come home?

yes	no

Were the bookmarks and learning activities helpful in guiding your questioning and discussions with your child about the books they were reading?

yes	no

Are there any other activities or things that I could have done to make this experience even better? Please comment below, thank you for your time!

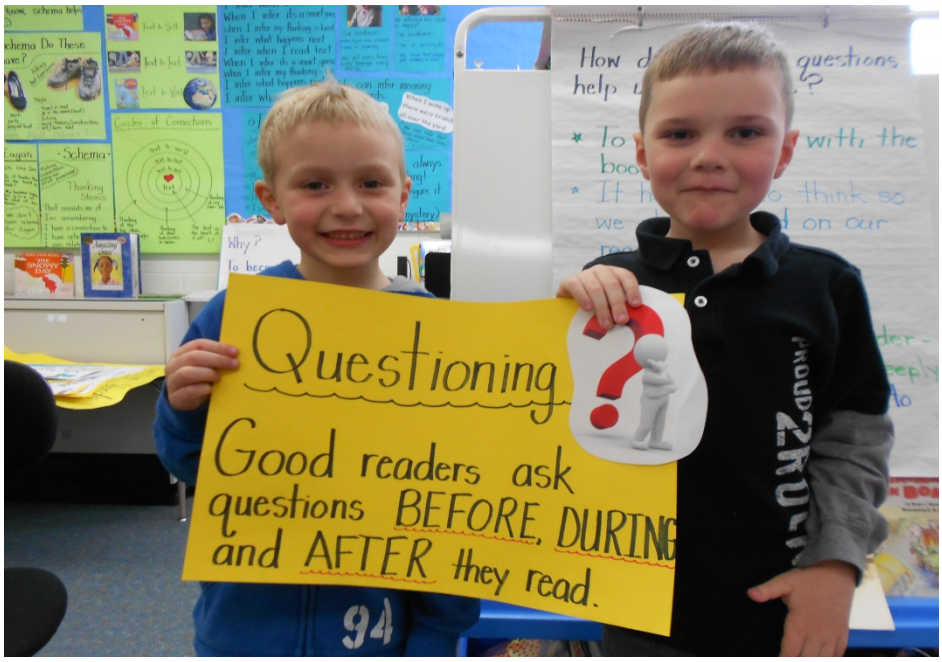
Appendix D

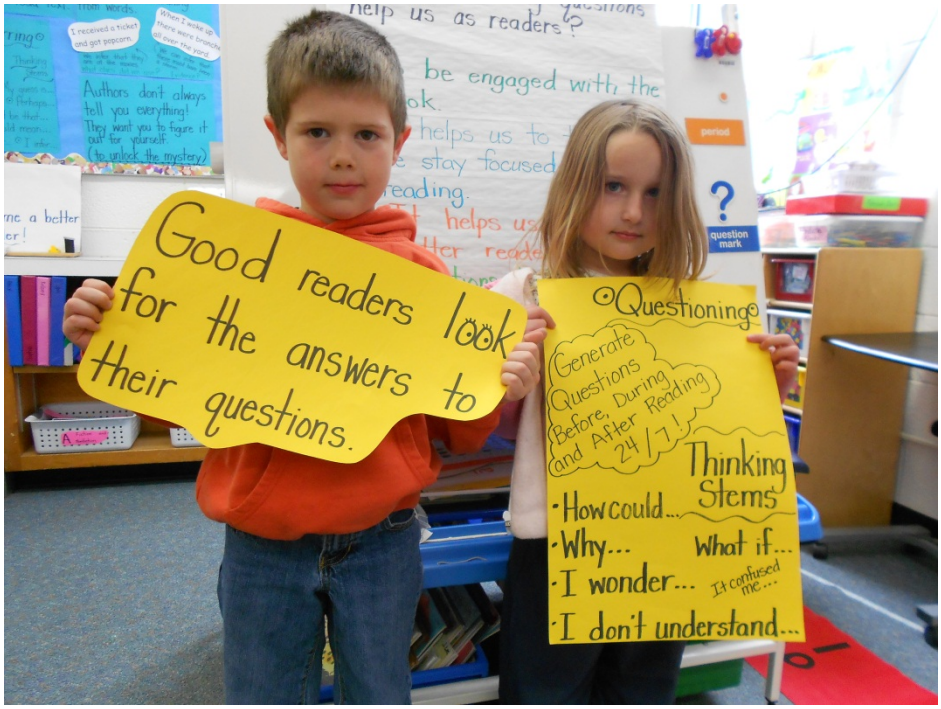
Fountas and Pinnell's Text Level Ladder of Progress

Kindergarten	A
Kindergarten	B
Kindergarten	C
Kindergarten	D
Grade One	E
Grade One	F
Grade One	G
Grade One	H
Grade One	I
Grade One	J
Grade Two	K
Grade Two	L
Grade Two	M
Grade Three	N
Grade Three	O
Grade Three	P
Grade Four	Q
Grade Four	R
Grade Four	S
Grade Five	T
Grade Five	U
Grade Five	V

Appendix E

Questioning Anchor Charts





Appendix F

Question Words Anchor Chart

Appendix G

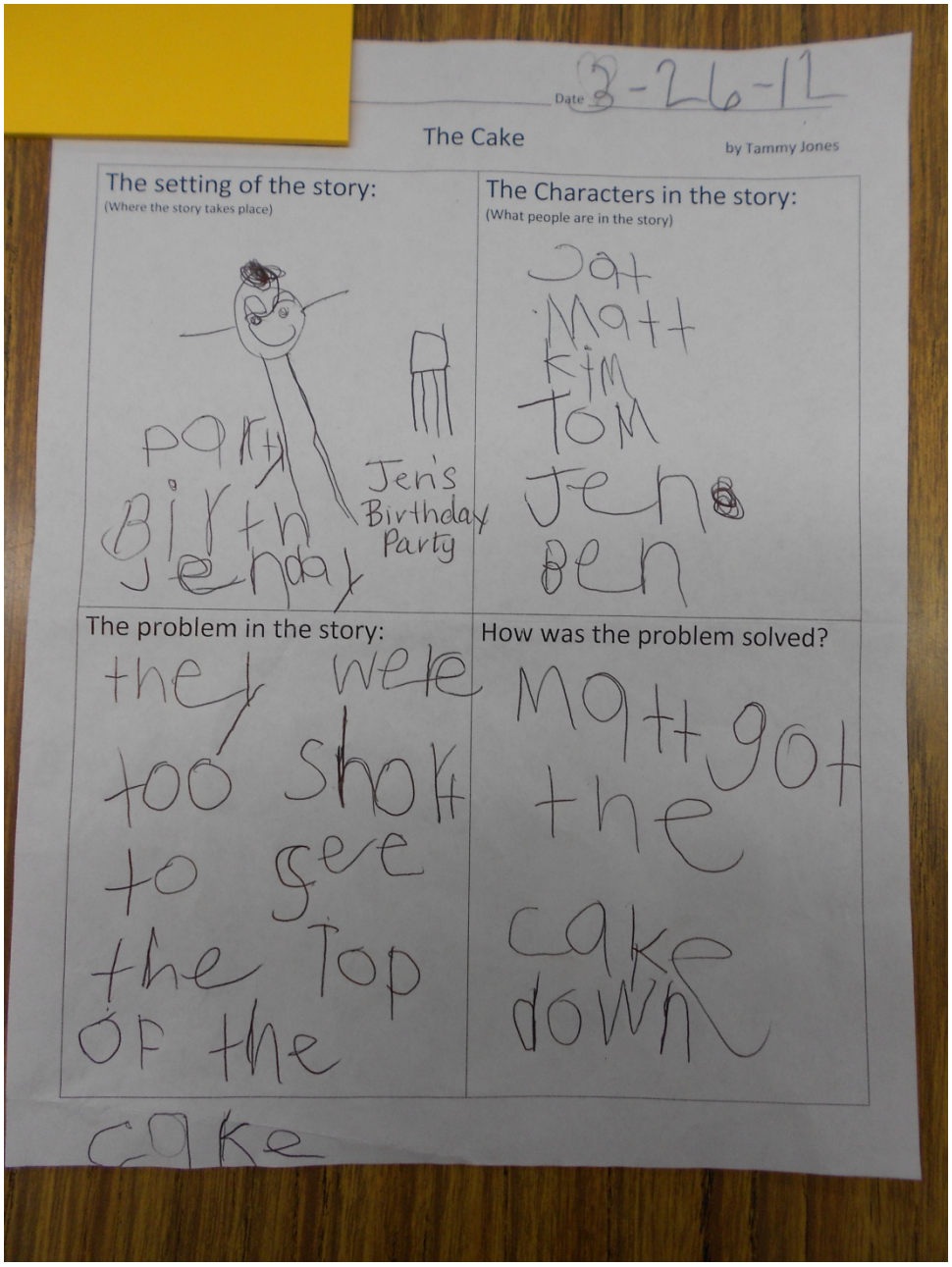
Thin Questions Anchor Chart

Appendix H

Thick Questions Anchor Chart

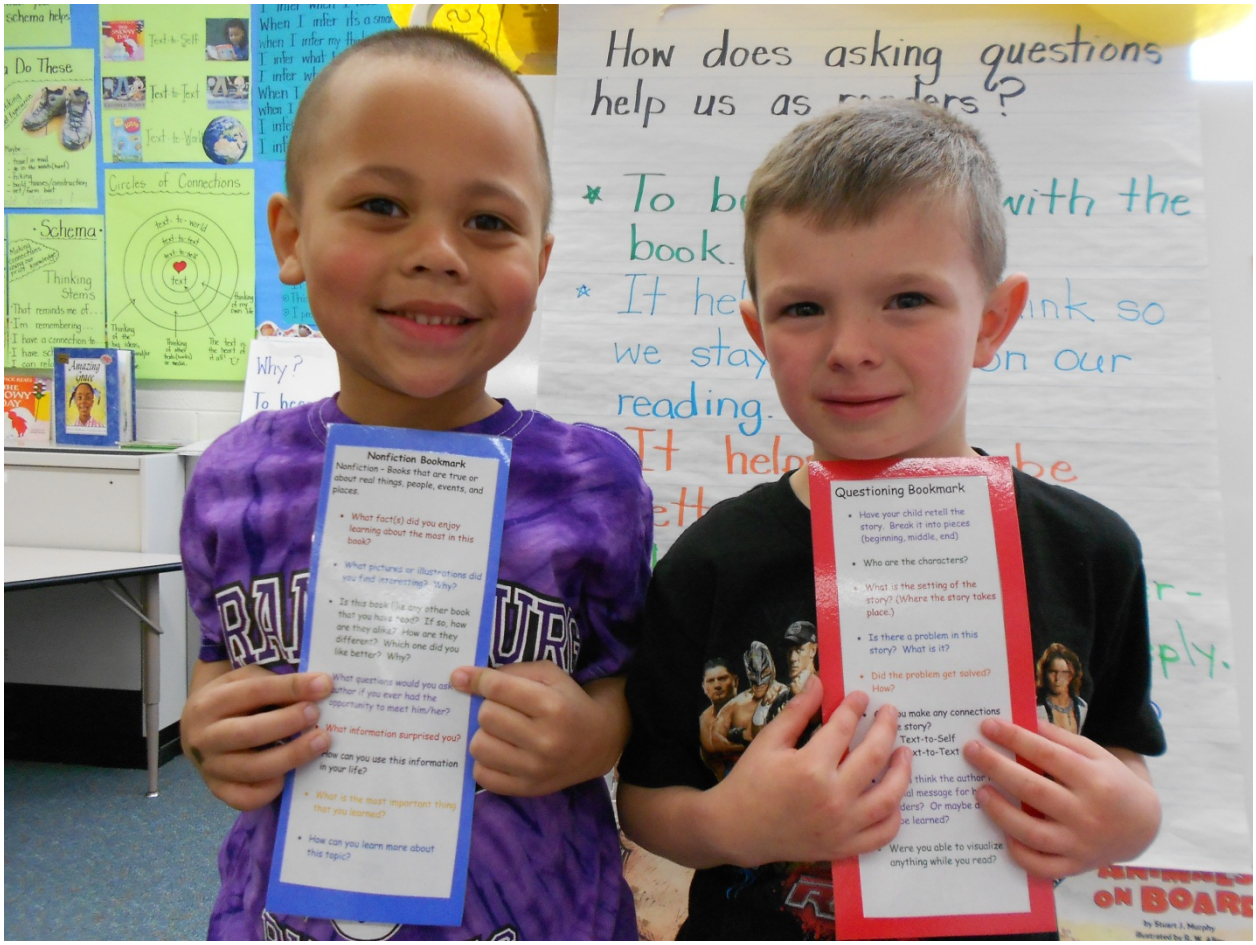
Appendix I

Retelling of The Cake (guided reading activity)



Appendix J

Bookmarks Used at Home



Appendix K (Fiction Bookmark)

Questioning Bookmark

- Have your child retell the story. Break it into pieces (beginning, middle, end)
- Who are the characters?
- What is the setting of the story? (Where the story takes place.)
- Is there a problem in this story? What is it?
- Did the problem get solved? How?
- Can you make any connections to the story?
  - Text-to-Self
  - Text-to-Text
- Do you think the author has a special message for his readers? Or maybe a lesson to be learned?
- Were you able to visualize anything while you read?

Appendix L

Nonfiction Bookmark

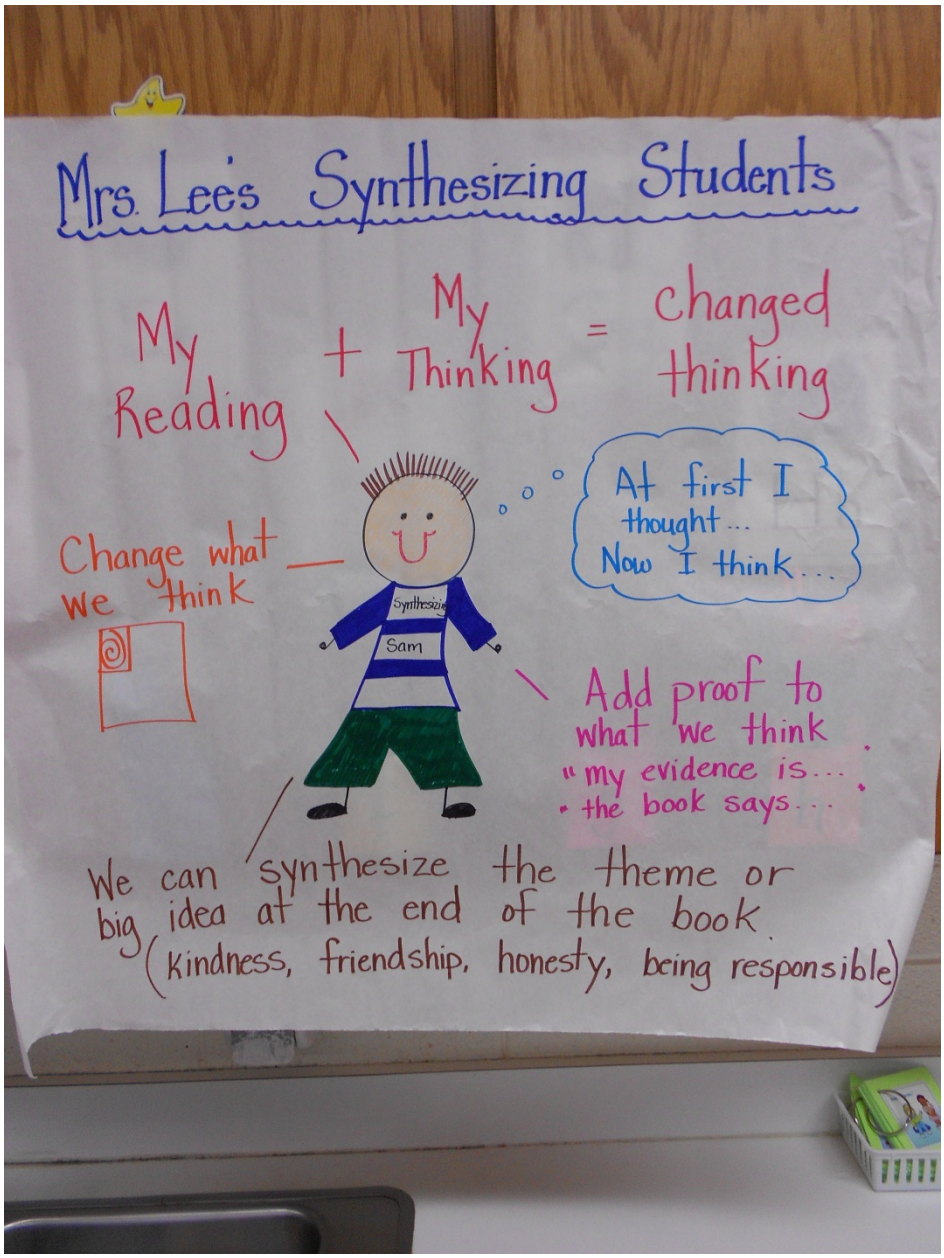
Nonfiction Bookmark

Nonfiction – Books that are true or about real things, people, events, and places.

- What fact(s) did you enjoy learning about the most in this book?
- What pictures or illustrations did you find interesting? Why?
- Is this book like any other book that you have read? If so, how are they alike? How are they different? Which one did you like better? Why?
- What questions would you ask the author if you ever had the opportunity to meet him/her?
- What information surprised you?
- How can you use this information in your life?
- What is the most important thing that you learned?
- How can you learn more about this topic?

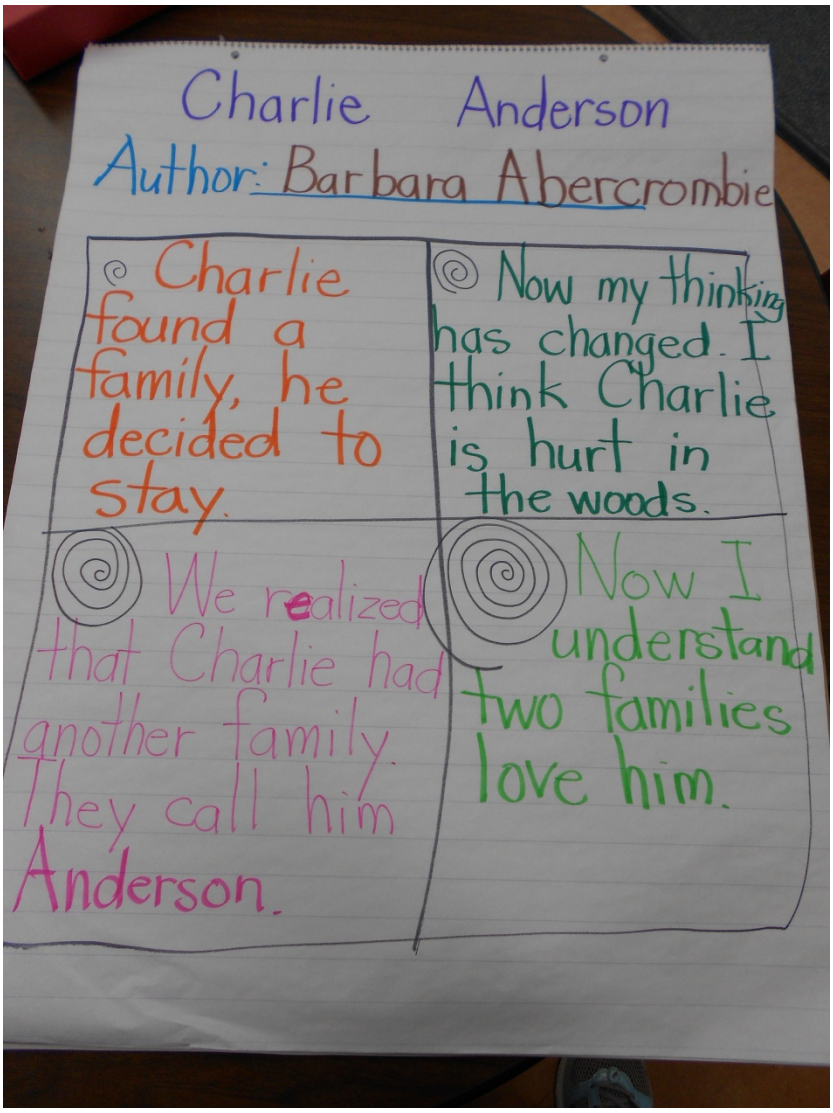
Appendix M

Synthesizing Sam



Appendix N

Synthesizing Circles



Appendix O

Synthesizing Circles