TAKING CONTROL:

What happens when first graders self-monitor their learning?

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Abstract

In this paper, I will be researching the question, "What happens when first graders self-monitor their learning?" Due to current educational trends and teacher evaluation legislation, early childhood educators are required to incorporate skills of self-monitoring (or tracking what one is doing and thinking to adjust their behaviors to meet future goals) with their students. Current literature on the topic of self-monitoring will be reviewed. Across three themes of content knowledge, homework, and social behavior, I will be collecting and analyzing data on self-monitoring practices used in my classroom. Findings from those results will be discussed and examined for overarching trends and understandings. From this research, I found that a majority of first graders can self-monitor with accuracy and honesty. But, there were tendencies discovered that may inhibit a first grader's ability to self-monitor. Implications, limitations, and emerging questions will also be discussed.

I. INTRODUCTION

I work in a public school in a rural area of northwest New Jersey. It is a small, middle class town of about 8,500 people ("History of Byram," 2013). My elementary school has a multiply disabled pre-school, full day kindergarten, and grades first through fourth. There are about 500 students in the school (NJ School Performance Report, 2013). We are a high performing school district with 19% of the population identified with a disability and 8% defined as economically disadvantaged. Caucasians represent 90% of the school population, 4% are Hispanic, 3% are Asian, and 2% are black (NJ School Performance Report, 2013). This is the fifth year of my teaching career and my third year teaching first grade. Currently, I am teaching first grade for the first time as an in-class support (ICS) classroom teacher. This means that I teach as the general education teacher side by side with a special education teacher all day. We have 19 students in our classroom, including four classified students: two receive OT, four receive speech services, and one attends resource room for language arts and math. Three students have IEP's, and one student has a 504 plan. In addition, we have five students who receive basic skills instruction in language arts and four students in basic skills math students. We co-teach language arts, math, science, and social studies and plan all of our lessons, assess content, and correspond with families together.

Due to a recently passed state law called Achieve NJ, public New Jersey school teachers are all being evaluated on similar components, regardless of grade level, content, student needs, etc. to determine effectiveness and maintain tenure status. Of particular interest to my administration is encouraging teachers to focus their improvement in the area of students self-monitoring learning. Self-monitoring seemed unachievable to me and other coworkers who teach the early childhood grades because the students are developmentally still growing out of an

egocentric state and just entering a concrete level of cognition (McLeod, 2012). Yet, the administration is asking to see this kind of implementation of instruction across all grade levels.

So, what happens when first grade students self-monitor their learning? For this past year I have been grappling with this question. From this challenge, came other sub-questions related to areas of instruction in which self-monitoring is required. What happens when students self-evaluate their understandings of taught content? What happens when students document and self-manage homework assignments? What happens when students self-select appropriate math activities based on their needs/weaknesses/strengths? In addition, which students are more capable of effective self-monitoring than others? Are there any trends amongst the students who can and those who cannot self-monitor effectively? What might be preventing some students from self-monitoring?

If given the proper instruction to be cognizant of how they are learning and appropriate performance tasks to practice self-assessment, can these young students begin to try ways of selecting, evaluating, and tracking their learning without much assistance from a teacher or other adult? I wondered if first graders actually capable of doing these types of tasks.

According to AchieveNJ law, public districts must use one from an approved list of rubrics to evaluate all of its certified teachers. Chief among the models are Danielson, Strong, Marzano and McREL (AchieveNJ, 2014, p.4). While the means used to evaluate and the number of standards or domains differs between the four models, all use a one to four numeric scale in measuring the effectiveness of a teacher. In order to receive the highest score (a four) possible on the components of the chosen rubric, certain practices must be evident in an observation. One of the themes of being a "highly effective" teacher across the domains tends to be student-driven learning, choice, and assessment. This is considered self-monitoring by the Danielson model

that my district has chosen to use. A self-monitoring learner is one who can analyze tasks, set specific goals, and evaluate progress according to the evaluation models being used by the AchieveNJ law (Danielson, 2011, p. 53). A student must be aware of what he or she is learning and determine if he or she understands the content and is progressing. Being aware of one's learning, progress, and growth are developmental skills that fall under the realm of metacognition, or one's ability to think about his or her own thinking. Research shows that one is capable of metacognition at any age (Vockell, n.d.). However, early childhood teachers know that it is a challenge for young students to take effective charge of their learning. So, many teachers shy away from implementing this model in their classrooms. Nonetheless, all New Jersey teachers, including early childhood educators, are now expected to have some form of self-assessment in their classrooms. The current challenge then becomes how can educators compel such young students to successfully and meaningfully self-monitor?

This exploration into self-monitoring is important to all NJ public school teachers right now due to the new AchieveNJ law. First, practicing self-monitoring can boost a teacher's overall evaluation score for observations. If self-monitoring becomes an area of strength for an educator, this could offset his/her lower scores in other components or domains of weakness. In addition, there are many early childhood teachers that will brush off the suggestion of self-monitoring as impossible. It is the hope that my research will show that young students are capable of some form of early self-monitoring. If the research proves that my first graders are not able to do so, then it is my hope that this report will show evidence that it is possible the current evaluation rubrics for teachers are not educationally sound for all grades and subjects. Finally, if the result of this research shows that first graders are able to successfully self-monitor in my classroom, then my methods can be adopted in other classrooms across other grade levels.

The potential benefits of increased student responsibility and increased ownership learning are other motivating factors for this research.

Outside of AchieveNJ and living in the state, one of the strongest trends of the past decade has been increasing student independence and responsibility. Another current buzz topic is Universal Design for Learning (UDL), which is the concept of including multiple means of representation, assessment, and engagement to reach all learners in a classroom. UDL stresses the importance of student self-assessment and reflection to increase his or her motivation to learn (CAST, 2011). Therefore, this is a movement that all teachers should be aware of and attempting to incorporate in their classrooms to help their students. Ultimately, by instructing and practicing self-monitoring, a teacher is passing on the skills that students will need going forward in their school careers. The sooner a student can effectively self-monitor, the sooner that student is able to hone those skills to succeed in school and later on in life.

The question “What happens when first graders self-monitor their learning?” is important to my current teaching as I have received evaluations for lesson observations in which administration thought the lessons were good, but asked to see the students monitoring or making decisions on their learning. Since "areas of weakness" are suggestions that should be evident in future observations, I have been struggling with what I can do with my six and seven year olds so that they can learn how to track and evaluate their own learning. I have always been someone who puts a one hundred percent effort into everything that I do, and of course that carries over into my teaching performance and evaluations. The hope is that I will find self-monitoring can enhance my teaching and strengthen my students as lifelong learners. I am hoping making adjustments to my instruction and management through this research will answer this concerning question of mine, and hopefully reveal student strengths and weaknesses that I

did not know before. Conclusively, I hope the research will allow me to evaluate my own teaching methods and make me a stronger teacher for my students this year and beyond.

II. REVIEW OF RELEVANT LITERATURE

In the following section, I will present relevant, recent literature relating to my research topic. Predominant themes will be explored across various leading current authors' publications to evaluate what others are finding about early childhood students who use self-monitoring skills.

It needs to be stated that the research included in this literature review uses several terms that all relate to the same idea of self-monitoring. Some sources refer to self-regulation; others use the term self-assessment or mention self-evaluation. In this paper, self-monitoring refers to students learning "to keep track of what they are doing and how they are thinking so they can adjust their behaviors and thoughts in order to meet goals or complete tasks" (Kaser, n.d). Self-assessment typically means the students "judge their own work to improve performance as they identify discrepancies between current and desired performance" (McMillan & Hearn, p. 40, 2008). Meanwhile, self-regulation is the ability to develop a set of behaviors that assist in one's own learning (Siegle & Reis, n.d.) Finally, self-evaluation is when the student determines if the goal of the lesson was understood (McMillan & Hearn, p. 45, 2008). But, the more research I did, the more discrepancy there was between the interpretations of each defined term. The definitions included here are the ones that are the closest to identifying each word's differences. For the purposes of this research, all terms can be acceptable to discuss the same goal of my question: can first grade students make independent choices after being taught skill for self-sufficiency? Due to the planned methods of instruction and approaches in my research, the label "self-monitoring" best encompasses what I am investigating. Therefore, "self-monitoring" will be used the most throughout my research, with the working definition being learning how to evaluate one's behaviors, practices, and learning to assess growth, progress, and understandings. However, the other terms mentioned above will be used interchangeably in the literature review

and further sections of this paper. It can be assumed all related terms are being used to discuss the same topic of self-monitoring.

Exploring self-monitoring efforts with early childhood students proved to be more positive and successful than I had anticipated, considering the negative opinions some educators have on the subject. Several sources show an observable improvement with self-monitoring in most of the classrooms. Due to these results, I have organized my findings into three categories focusing mostly on the methods of approach with these six and seven year olds, which is of the most interest to my research. Additionally, instructional plans and outcomes appeared to be the running themes of the information I could find on the topic. Therefore, in this section I will be reviewing several relevant ideas related to my research. They include the Six Steps of Instruction (a gradual release model), Clear Goals and Expectations, and Different Antecedents mean Different Outcomes (background affects performance).

The Six Stages of Instruction

Without a doubt, one of the most prevalent themes I found through my research was that early childhood students need a clear instructional release model in order to successfully self assess. Like most current workshop and mini lessons, students are modeled a skill and practice in groups prior to applying and utilizing the skill independently. As I suspected, showing students how to self monitor is no different in its approach. I had planned to model with my co-teacher how to evaluate one's own learning; however, I had not realized that there were many clear steps in this gradual release to independence. From multiple sources (including Regan & Martin, 2013, Zumbrunn and Bruning, 2012, Ennis and Jolivette, 2014, and Perry & VandeKamp, 2000) I found a definitive, six stage process of teaching self-assessment.

The "Self-Regulated Strategy Development" (SRSD) model includes the following six steps (1) develop background knowledge, (2) discuss it, (3) model it, (4) memorize it, (5) support it, and (6) independently perform it (Regan & Martin, 2013). First, the teacher must observe and evaluate how much the students can self monitor prior to instruction. He or she then uses this information to discuss student abilities with individual students or a larger group. Next, the teacher models a desired behavior or skill multiple times, and students are expected to memorize it by consistent prompting. Finally, by providing constant feedback, supports like checklists and posters, and helpful organizers like rubrics, the students can begin to independently self monitor and assess (Regan & Martin, 2013). In their observations, Regan and Martin saw a lot of academic improvement with mildly disabled students' writing through the use of mnemonic devices; the students that utilized mnemonic devices were more motivated and confident with their writing. While the students in this research were a few grade levels older than my students, Regan and Martin's method of self-assessment could potentially become a critical piece of my own research. Additionally, I found that Zumbrunn and Bruning (2012) discovered that by using the SRSD model with first grade writers, the students had gained writing knowledge as a result of direct SRSD instruction. In fact, the young students were able to all state how they managed and monitored their writing. Finally, Ennis and Jolivette (2014) found using the SRSD model with emotionally and behaviorally disturbed students did generally improve their writing performance. Since the researchers' articles were specifically about writing, I was interested in seeing SRSD applied to another subject area.

Fortunately, I found the same SRSD model was used over a decade ago in the classroom for self-regulating independent reading and writing from kindergarten to third grade by Perry and VandeKamp (2000). From the findings they learned that while some of the teachers found the

language for scaffolding difficult, they all saw a positive outcome from implementing self-regulated instruction and practices in their classrooms (Perry & VandeKamp, 2000). These were noteworthy findings as this type of investigation had never been done with early childhood students at the time. Perry and VandeKamp (2000) were unsure of what their results would be; however, the vast majority of students in the research after three years of this instruction were able to identify their own mistakes and weaknesses, were willing to seek help from a teacher, peer, or parent, and felt more motivated with their independent writing and reading (Perry & VandeKamp, 2000). As Regan and Martin (2013) found, Perry and VandeKamp (2000) concluded that with direct instruction practicing metacognitive strategies, even most young students can learn to self assess to a reasonable degree. The students had increased their management, engagement, and metacognitive skills (Perry & VandeKamp, 2000).

Therefore, I could deduce that this model is one method that could prove useful in how I approached teaching self-monitoring to my students. It was my hope that by giving them direct instruction in these skills, they would be able to remember, and apply, them to activities in my classroom, in their future educational years, and other aspects of their lives.

Clear Goals and Expectations

One of the most evident themes I found throughout the research is that it is possible early childhood students can self-assess, when there is an emphasis on providing students with very clear goals and expectations. The objectives of a lesson have to be present and understood by the students in order for them to successfully self-monitor their progress with the content. While this was another part of my planned method, the examples given in the research are very helpful guides and suggestions for my own research.

Current teachers sharing reflections from their classrooms online agree that self-assessment increases student motivation and engagement. First grade teacher Cassidy (2011) worked with her students to create a rubric to assess their learning of some body parts in science. The rubric had four levels of achievement and three indicators. With the guidance of the rubric, the students chose how to present the content learned. Cassidy (2011) found that the students were able to help generate the rubric, choose appropriate and engaging project mediums, and were motivated to receive the highest score possible from their rubrics. Henry (2014), another first grade teacher, recounts his experiences with self-assessment on Scholastic's teacher webpage. The students determined if the writing in their portfolios was "good," "very good," or "excellent" with individual index cards and a class chart. With the students, the teacher showed and explained effective writing strategies, and his students were able to use these examples to assess and improve their own writing (Henry, 2014). As the school year progressed, the students were able to refine what kinds of writing fit into each category on their chart (Henry, 2014). Henry (2014) found an increase in his students' self-evaluation skills and they were better able to infuse their thinking into the work they produced, much like Cassidy (2011).

Louis (2012), a school librarian, also found it necessary to make very transparent goals with her students in order to make self-monitoring possible. Her class of kindergarten students was provided with a simple checklist where they were given a place to assess their performance of an animal project with smiley faces, and the teacher had a space to provide smiley faces and written feedback about each part of the project (Louis & Harada, 2012). From her research, Louis found while "self-assessment is not an easily mastered skill, it is a learnable one" (Louis & Harada, 2012, p.16). She felt that the students learn more deeply and have an increased motivation to improve. Her statements resonated with me as I felt they can explain some of the

perplexities and tensions I have had with my research question. It is possible that many early childhood teachers either hesitate or reject students self-monitoring because the time spent and approaches needed appear to be an impossible challenge. Since Louis's conclusions align with those of Cassidy and Henry, it is evident that setting clear expectations benefit both the teachers and students involved in learning how to self-assess.

In Palmer and Wehmeyer's (2003) research, they found that both problem solving and goal setting are necessary components for students to learn how to self direct and self determine. They used what they called the "Self Determined Learning Model of Instruction" to guide kindergarten to third grade students (many with unidentified special education supports) through independent projects. In the model there are three phases: (1) set the goal, (2) take action, and (3) adjust the goal or plan (Palmer & Wehmeyer, 2003). Each phase has four questions that students learn to answer, such as, "What actions have I taken?" and "Do I know what I want to know?" for phase three (2003, p. 118). Using the collected data from many students and classrooms, Palmer and Wehmeyer (2003) determined that even their youngest participants (5 and 6 years old) were able to identify appropriate needs. However, they emphasized that this was only possible when the students received instruction in suitable goal setting strategies. They did not feel all students are capable without a model or guidance for problem solving or self-assessment. One participating teacher reflected, "It was very interesting to see what my students wanted to learn at school—that they did have goals and did not come to school just to 'play'" (Palmer and Wehmeyer, 2003, p. 123). They recognized some limitations that were on my mind as an educator, such as having the time to teach the model and the amount of communication needed with the younger students (Palmer & Wehmeyer, 2003). Nonetheless, they argue that the sooner students can strengthen their self-monitoring skills, the better off they will be in their

academic careers. While I found their model rather lengthy and demanding, I felt I could use it as another encouraging guide and aid in my research of self-monitoring.

Even though I understood the significance of learning goal-setting prior to my research, I had not realized how critical it would be to teaching self-monitoring. The researched examples of establishing clear goals and expectations described situations when early childhood students needed, and utilized, models, charts, rubrics, and checklists to self-assess. This theme of student accountability and involvement in their goal-setting has proven to be an irreplaceable part of the early childhood self-assessment puzzle.

Different Antecedents mean Different Outcomes

While I had been surprised at the positive results from most self-monitoring research of early childhood students, there are constraints and challenges that teachers can face when implementing these practices. There are many sources that indicate the background experiences and personalities of students prior to entering the classroom that can influence their ability to self-monitor. When this occurs, teaching and practicing self-monitoring is more demanding on the educator. In addition, there is the possibility that there are students who may find of self-assessment or regulation challenging and others who are exceptional at the process.

It has to be considered that there can be young students who over estimate their own understandings when they self-reflect and assess. When this occurs, the student is not self-evaluating properly and cannot set appropriate new goals for his or her future. Edens and Potter (2012) researched preschoolers self-selecting from activities around the classroom during center time, including some math station choices, and observed student behaviors, motivation, and perceived math ability. They found most of the students could evaluate their math competence

in comparison to given standards; however, they over estimated their personal abilities in math. Furthermore, they found that students chose activities that were perceived as "fun," such as blocks and computers rather than ones they needed academically. When at a math center, students who struggled with math chose less challenging math activities to perform (Edens & Potter, 2012).

Perry and VandeKamp (2000) found a similar problem in their research of self-regulation of kindergarten through third grade. They learned some students attempted to avoid making errors by picking easier choices of activity and rushed to get tasks done (Perry & VandeKamp, 2000). On the other hand, much like Edens and Potter, students who preferred a challenge liked to try more difficult tasks, as they felt doing so would help them to learn (2000). These were the students that they found to have intrinsic motivation and natural self-regulation.

Furthermore, Smiley and Dweck (1994) studied preschool-aged children for their levels of helplessness, confidence, goals, and work ethic when solving various types of puzzles. They found similar results as Perry and Vandekamp (2000). Smiley and Dweck learned that students who were given a learning goal, regardless of confidence level, were focused on strategy and maintained a positive emotional self-evaluation (1994, p.1739). Meanwhile, students who were given a performance task had two opposing outcomes correlating to confidence level. Students who were confident had a more positive emotional response and self-evaluation, and students who had a lack of confidence would have a negative response, self-evaluation, and oftentimes outcome (Smiley & Dweck, 1994, p.1737). Interestingly, students who lacked confidence were very likely to downplay their performance, too. Additionally, students with performance based tasks were more interested in gaining guaranteed outcomes than they were challenging their ability (Smiley & Dweck, 1994, p. 1734). So, Smiley and Dweck believe that young students

who lack confidence or fear failure are more likely to self-evaluate negatively and underperform in tasks that they chose and deemed "easier" or "solvable," which aligns with Perry and Vandekamp's (2000) findings that students who were more confident and motivated were more likely to challenge themselves.

In the vein of intrinsic self-regulation, other researchers have found that certain students are more capable of these skills than others due to antecedents of their background experiences and upbringing. Sanders and Mazzucchelli (2013, p.6) cite that while some elements of self-regulation can be inherited, there is a lot of scientific "evidence that the capacity to self-regulate is a learned skill that can be strengthened with practice." They believe that good portion of self-regulation skills are learned from a child's parents in his or her early formative years. Parents who did not have positive self-regulation practices commonly had children who also struggled with the same habits (Sanders & Mazzucchelli, 2013). Fortunately, they indicate that self-regulation can be taught to someone of any age, and there are strategies that an educator can do to help parents become better self-regulators, which in turn can help the student become better at it as well. Ocak and Yamaç (2013, p. 383) had similar findings from studying the math attitudes of fifth graders. Increased self-efficacy, intrinsic goal-orientation, self-regulation, and task value all positively determined student attitudes towards math content and their own abilities. In addition, much like Edens and Potter, they found that feelings of low self-efficacy for learning meant the student would avoid tasks that he or she deemed as challenging (2013, p. 384). Therefore, it is evident that students who have precursory skills in self-monitoring, self-regulation, and self-efficacy will be better at classroom self-monitoring practices than those students who may have lacked strong models of these practices prior to school or less confidence with the content.

It seems like these researchers were able to identify two very different groups of students. In my own research, there may be students who have a capacity for self-monitoring and are naturally self-motivated learners that seek challenge and progress. On the other hand, I may have students who have little background experience with self-monitoring who will find my research methods challenging and need extra support and modeling than the rest of my class. It is possible that one reason teachers find effective early childhood self-monitoring impossible is due to the possibility that some students do not have intuitive self-regulation skills. Fortuitously, the research here also states that this does not mean those students cannot learn to self-monitor. They just need more modeling, support, and time to practice strategies than others.

Across the three themes of the Six Steps of Instruction, Clear Goals and Expectations, and Different Antecedents mean Different Outcomes, there were clear similarities that encouraged introducing children to some form of self-monitoring would be beneficial to their learning. There were expected challenges such as finding time to instruct self-monitoring, student background experiences, and prior student self-motivation levels. Nonetheless, most researchers and authors expressed positive experiences with self-monitoring in the early childhood classrooms. Through well-organized approaches to instruct and practice these independence skills, most students were able to grow as self-monitoring learners.

I was pleasantly surprised that so many researchers had success. This broke any preconceptions I had about self-monitoring from other teachers or my own informal attempts at these practices. The themes of this paper have helped to give me guidance in how I can present and teach these skills to my students when I begin my research. Additionally, the information offered me suggestions to overcome some predicted obstacles. It was my hope that from my

research, I would be able to join the ranks of the authors from my sources to say that my students can effectively practice self-monitoring strategies by following in their footsteps and utilize their proposals to find my own success.

III. METHODOLOGY

In order to encompass this exploration of first graders self-monitoring their learning, I needed to have various approaches that would provide data to reveal self-monitoring in many forms and practices. The definition of self-monitoring I chose for this research is any process where students "keep track of what they are doing and how they are thinking so they can adjust their behaviors and thoughts in order to meet goals or complete tasks" (Kaser, n.d). I chose to look at self-monitoring in terms of procedures students could do independently. These procedures would be across multiple forms of assessment that normally fall on the early childhood educator: homework, content, and social behavior. Usually homework is a task that is assisted at home by a student's parents or guardians. Teachers will use various forms of written or performance-based assessment to evaluate content knowledge. Furthermore, teachers instruct students of acceptable behaviors when working with others or independently. I wanted to see what happens when some level of responsibility of these areas fell on the student him/herself.

Data Sample

The data sample was my current first grade classroom. There are 19 students in my class, but one is in a resource room for language arts and math. Since that student misses a lot of my classroom instruction, is not assigned my homework, and is not in my classroom for most of the lessons involving self-monitoring, his results will not be included in this research. Therefore, I used the population of 18 students that are in my classroom for all subject areas. Of those 18 students, nine were reading slightly below grade level, five were in basic skills for language arts, and four were in basic skills for math. Two students had Individualized Education Programs (IEP's), or legal documentation of plans to meet a child's learning needs (Stanberry, 2015). One

student had a 504 plan, or legal documentation requiring the needs of a student with disabilities to be met (Durheim, 2003). One student was receiving I&RS, or intervention and referral services for at-risk behaviors (Resource Manual for I&RS, 2008). Three students received speech services, and one student received occupational therapy at the time of data collection. My class this year has many boys with impulsive personalities (based on my own assessment); nonetheless, they are a kind, motivated group of students. They get along well with each other and have formed an impressive level of teamwork and cohesion for a first grade class.

I chose to study all 18 students in my classroom (who receive my language arts and math instruction) because my research question asks if all first graders are capable of self-assessment. It was my hope that by collecting data from all of my students, I could look for trends among those students of who can and can't self-monitor. I felt if I included all student levels and abilities in my research, I could present a reliable source of data of a typical first grade population using self-assessment. All of my students' families granted permission to participate in my research following a letter that was sent home explaining what my research was about and how the data I collected from my students and their families would be used and presented (Appendix C, Figure 1).

My classroom is the first grade in-class support classroom, so I co-teach all day with a special education teacher. There are certain skills we each teach the entire group. For example, I teach guided reading groups, and she teaches spelling and phonics. There are certain subjects where one of us will run the lesson and the other hangs back and assists the students. Other times, we are teaching together, bouncing off of each other. I am fortunate that my co-teacher is very flexible and open-minded and was excited to help me with this research. We were able to

work together to find time during the school day to dedicate to instruction of self-monitoring and do lessons that lent themselves to collecting data.

Data Sources

In my research plan, I chose to use multiple forms of data sources to evaluate first graders self-monitoring their content knowledge, homework, and social behaviors in centers. These three focus areas will be explained in this section and are driven from my research sub-questions. My first sub-question regarding content knowledge was, "What happens when students self-evaluate their understandings of taught content?" For homework, I sought an answer to, "What happens when students document and self-manage homework assignments?" Finally, for social behavior, I wanted to know, "What happens when students self-select appropriate math activities based on their needs/weaknesses/strengths?" Throughout all of my research findings were my most pressing sub-questions, "Which students are more capable of effective self-monitoring than others? Are there any trends amongst the students who can and those who cannot self-monitor effectively? What might be preventing some students from self-monitoring?" I will break down my data sources into my three themes of content knowledge, homework, and social behaviors in this section and will explain the data sources used for each theme.

Content Knowledge

Some of the components under the third domain in the Danielson evaluation rubric for teachers states that to receive a score of highly effective, students must be able to "monitor their own understanding" and "have an opportunity for reflection and closure on the lesson to consolidate their learning" (Danielson, 2011). The stress of such feats seeming impossible at the

first grade level is what influenced me to do this research. I desperately wanted to know if first graders were capable of accurately self-monitoring their content understandings to the extent that the new teacher's evaluation rubric expected. Therefore, this requirement drove me to my first sub-question and theme of self-monitoring content knowledge.

To see if first graders can appropriately self-assess their own levels of content understanding, I chose to use our new math curriculum, Envisions by Pearson. The lessons are very clear-cut in their presentation of standards and skills and provided short assessments for each lesson I could use for this research. Furthermore, the amount of data collected from one subject area was more than enough for this research.

To teach the students how to assess their understanding of taught content, I chose to have the students give a numeric value to their level of understanding. I used the Marzano student self-assessment rubric that other teachers all over the nation are directed to use across the grade levels (*shown left*). Of the different self-assessment rubrics I researched, the Marzano rubric had the easiest terminology for my students to understand, and it almost mirrored the Danielson evaluation model that my school uses for teachers. A score of 1 means, "I am just starting to learn this and don't understand it yet." A score of a 2 means, "I can do this with help." A score of a 3 means, "I can do this on my own without help." Finally, a score of a 4 means, "I can do this on my own and teach it to others (Winn, n.d.)."

Student-Kept Record: Post-it's

On a bulletin board just outside of my classroom, there are minions (a current movie character), labeled with each student's name. The title of the board reads, "We Learn a Minion Things in School!" Each minion character is holding a plastic bag. The plastic bag is meant to hold Post-it notes that the student themselves place in the bag (*shown on the right*). I had been using this board all year as a means of lesson closure. Several times a week across subject areas, my co-teacher and I would assign the students a reflective task to do on the Post-it related to the lesson. The Post-it notes would be checked by myself or my co-teacher, date-stamped, and then placed in the minion's plastic bag. Since this routine is one the students in my class enjoy doing, and is one that they are familiar with, I chose to extend this closure activity to also include a self-assessment piece.

For six weeks (from the beginning of January to the middle of February), at the end of almost every math lesson, I would ask the students to do one math problem on the front of one Post-it that would practice the skill learned from the lesson. On the back, they were asked to self-assess his or her understanding of the math skill and write a 1, 2, 3, or 4. The Post-it had to be shown to me for approval that all directions were followed and any math corrected on the front side of the sticky note. I would date stamp the paper, and the student could place it in his/her minion. The sticky notes would be collected by after school and attached to an accompanying assessment by each student (see the next data source). Math is taught in my classroom in the afternoons, usually around 1:10-2:30, but the exact time and duration ranges from 45 minutes of math a day to 90 minutes (depending on the day of the week and schedule).

The Post-it notes provided me with the essential documentation of the student's self-assessment on a content area. The sticky notes could show me trends of individual student growth and change in self-assessment accuracy, trends across groups of students, and compare a student's beliefs of understood content to his or her actual understandings. These sticky notes would be the proof needed to see if a student is capable of accurately judging his or her own understandings and knowledge on a given topic, when evaluated alongside the following work sample (Shagoury & Power, 2012, p. 115).

Work Sample: Lesson Assessment Worksheet

In order to show the accuracy of a student's own numeric value of his or her understanding, I needed to have a valid form of assessment to compare against the student's self-assessment. Each math lesson of our curriculum has an accompanying assessment page called a "Quick Check." Each Quick Check is worth five points. There are three problems on each Quick Check. The first two are multiple choice questions, and the last is an open-ended word problem with several steps and is worth three points. This form of assessment is meant to quickly show a teacher the student understands the lesson's skill to place them in leveled center groups. Students who score all five points are considered above level, those who score four points are on level, and those who score three points or lower are considered "below level (Appendix C, Figures 2 and 3)." Since form of assessment is quick, clear, objective and provides me with the information I need to see if the student understands the goals and content of the lesson, I felt it would be the best to use to align with the Post-it notes.

At the end of every math lesson, after the students would complete their Post-it note, they would be given the lesson's Quick Check. The students took this assessment all at the same time, with directions for each problem given by me, and they would have privacy "offices" up to

limit cheating. Due to lesson timing, sometimes this Quick Check would be given on the same day that the lesson ended and the students self-assessed on a sticky note. Other days, the Quick Check had to be given the following school day at the start of the math block because I ran out of time the day of teaching the lesson. The fact that sometimes this assessment had to be given the following day did not concern me with regards to validity because brain research shows that true long term learning is shown at least 24 hours later after a given lesson (Sousa, 2011, p.55). Therefore, a Quick Check administered the following day showed a student's authentic, remembered understanding of a lesson's content, which would be of more value than a Quick Check given immediately following the lesson. Nonetheless, for scheduling purposes, it was best to try to the Quick Check the day of the actual lesson.

Administering a Quick Check for each lesson that the students self-assessed their understanding for gave me an assessment I could use to determine if each student was accurate in their self-assessment rating. If their self-assessed score on a Post-it matched or did not match their performance on the lesson's accompanying Quick Check would give me a lot of insight into their self-monitoring skills and abilities.

Homework

Homework is a task meant to build the home-school connection, reinforce skills taught in school, and hone effective organization behaviors. At the first grade level, most families will work with their child to complete the homework in a timely and correct manner. While this time with a family member is invaluable, there are times that the student cannot take full ownership of the work, like he or she can with independent work at school. Along with having students self-monitor their content knowledge at school, I felt it would be great practice to have the child take more responsibility of their work at home.

From feedback I get from students and their families, the most challenging portion of the weekly homework is a reading log. The reading log is sent home on Friday, and the students must read a set number of minutes each per night for five nights a week. The reading log is due back the following Friday. The reading log being used by my grade level team of teachers requires the family to fill out the five dates the child read during the week, one book listed for each night, the minutes read, and a parent signature. Due to hectic afterschool schedules for most families, many families have expressed to me that it has been challenging for them to find the time to read for a given number minutes every night. I felt a change to the reading homework may be welcomed with open arms by the families of my students and noticed the task would be easy to adjust to have the students take more responsibility for the minutes read at home. Therefore, the second theme and sub-question of my research evolved into one about students self-monitoring their homework.

Student-Kept Record: Reading Log

Instead of reading for 20 minutes a night for five nights a week (for a total of 100 minutes per week), I altered the reading log to just have a goal of 100 minutes of reading a week. The minutes could be divided and completed anyway each family saw fit to their schedule (Appendix C, Figure 4). The reading log was still sent home on Friday and due back to school the following Friday. Even if a student reached 100 minutes prior to Friday's due date, my co-teacher and I do not accept the reading log earlier in the week. Our students hand in all of their homework on Friday, so it is less confusing if we go through all of it on one day than keep track of it as is trickles into our classroom throughout the week.

The directions on the new reading log stated the flexibility in choosing when to read during the week. The new reading log also encouraged for the student him or herself to record

the date, books read, minutes read, and add up for a weekly total. This was usually a task reserved for the parent or guardian. I collected 6 weeks of reading logs from my class of students from the first week of January until the middle of February. The reading logs were collected on Friday mornings before instruction began for the day. Students with missing reading logs received a "Homework Notification" to bring home that day as a reminder to bring it in the following Monday.

This source of data would reveal the extent of application of self-monitoring skills to home by the student, levels of motivation and participation by students and their families (depending on return rate to school, minutes read, etc.), and changes in reading patterns based on the change in assignment flexibility. Altering the reading homework allowed me to analyze self-monitoring abilities outside of the classroom and away from the teacher.

Parent Survey

Prior to altering the homework assignment, and following the data collection, I felt it would be interesting to have parent feedback on the reading log. Since I have a class of 18 students, I had to try to obtain as much information as possible from as many families as possible (Falk & Blumenreich, 2005, p. 100). I wanted to see what the consensus was among the current class of families I have regarding the reading log's number of minutes, schedule, and level of child's independence with the assignment prior to changing the expectations of the task. After doing reading homework in this manner for six weeks, I was interested to see which method the families preferred (the structure of reading a set number of minutes or the new flexible, open schedule to reach a reading minute goal), and which method seemed easiest for the child to be involved in recording his or her reading at home (showing their self-monitoring practices outside of school). The post-research results would be used to determine which reading log would be

used for the homework for the remainder of the year, based on the responses I received from the families that participated in the survey.

The pre-research survey consisted of six close-ended questions with four options of answers for each (Appendix C, Figures 5 and 6). After the sixth question was an open-ended area for adding comments and suggestions, in case parents wanted to communicate related concerns. The survey was made on Google Forms in Google Drive and distributed with the families of my classroom via email (all of the families in my classroom this year have easy access to email). I emailed the survey about two weeks prior to the homework assignment changing and sent out two reminder emails after the initial email asking to participate in the survey before I closed the survey. The parents had about a week to answer the survey questions. The results were anonymous with just a date stamp for each response.

The post-research survey also consisted of six questions with four options of answers that mirrored those of the pre-survey (Appendix C, Figures 7 and 8). There was also a section for comments at the end of this survey. This survey was done in the same format as the first on Google Forms and emailed out to parents immediately following 6 weeks of new reading log homework. There were two more emails sent out as follow ups asking families to participate. Families had about a week to participate in this survey as well, and responses were again anonymous. All responses were saved automatically to the survey form online and being the creator of the survey, I can access the results easily at any time. Parents could not see the results of others who participated, and Google Forms automatically calculated the results of each question of each survey into pie charts.

Student Pre-Survey

One final source of data I wanted on homework was feedback from the students themselves prior to changing the reading assignment. It was necessary to have information on their levels of reading engagement and motivation at home, to see if this influences their homework participation and number of minutes read. I created a simple close-ended survey that would not pressure my students into giving the "right" answers that they would anticipate I wanted to see (Appendix C, Figure 9) and contained definitive answers that could easily be aggregated for analysis (Falk & Blumenreich, 2005, p. 100). So, the survey questions were mostly about personal preferences when reading at home. The students did not put their names on the surveys and circled an answer from the choices provided for each question. Now not only did I have the parents' perspective on the homework, but I would have the perspectives of my students as well. This reading survey was given in class to all the students on the Friday that the first new reading homework was being sent home. So, I got their opinions on reading homework before the reading assignment changed. After the survey and before the students went home, I showed them the new reading log they would find in their homework pages when they got home and how the expectations for the assignment had changed. I did not give a post-survey, as I felt the questions would be repetitive and not provide me with the information I needed to get a complete picture of first graders self-monitoring their homework. It seemed unnecessary to what I was researching; however, a post-survey similar to the one I created would not be uncalled for, for someone else performing comparable research.

Centers (Social Behavior)

One other area of education I wanted to analyze for student self-assessment was that of social behavior and independent work. In the Danielson model of teacher evaluation, there are

components measuring the extent of student choice in a classroom. To achieve a higher score, a classroom must have environment where students have the flexibility to self-select activities for their individual needs across all grade levels. Moreover, "students take an active role in monitoring their own behavior and/or of other students against standards of conduct" (Danielson, 2011). Due to the maturity level and developmental self-centeredness of a first grader, I questioned if it was possible for *all* of my students to gauge the appropriateness of their own academic choices. In addition, to researching this ability of first graders, I wanted to look at other abilities my students were capable of, such as selecting activities that were challenging, following directions, respecting other group members, and evaluating their own understandings of the math centers. There is always the handful of students that has the control and regulation to choose independently and honestly assess their performance. However, I have always questioned if every first grader is capable of this competence, if he or she receives the proper instruction in how to do so prior to such an activity.

I decided to design several days of math centers where students would have a gradual release over time to making their own decisions on their choice of centers and appropriately reflecting on their choices immediately following. Typically in my classroom, my co-teacher and I design centers that are performed by the students through a rotation process. The students have the opportunity to go to each of four to five centers in the room in groups as large as four, spending about ten to 15 minutes at each. Sometimes, if the center is multi-step or academically challenging, my co-teacher and I may monitor particular centers. Rotating through all of the centers can take one or two days of math to make sure the students get to visit each one. I chose to approach how we organize our centers differently by providing the students with four or five centers but allowing the students to self-select which centers they would visit based on needs,

interests, and availability. To document and evaluate this change in the structure of math centers, I used the following forms of data.

Video Recordings

Typically, my co-teacher and I are so involved assisting at math centers around the room that we do not have the opportunity to hang back and witness the students' behavior at other areas of the room. The immediate form of data I knew I needed, and wanted, to collect would be documentation of the students as they worked at their centers independently. Videotaping the centers would show me student interactions, conversations, and behavior. In addition, since I would be filming three separate days of math centers, the students would become comfortable with the videotaping relatively quickly and not be inhibited by the recording process (Falk & Blumenreich, 2005, p. 108). I hoped the video recording would reveal behaviors that I miss or fail to remember on a typical math center day and show correlations, or a lack thereof, to the students' own self-assessments of their behavior and choices.

I used an iPad assigned to my ICS classroom and recorded video of the students at their centers placed around the classroom. I did not record video of the directions and rules I gave for each station before the students began, nor the few minutes of time between center switches when I gave directions of how the students would be moving from one station to the next. I was more interested in the independent choices the students made (in regards to which centers they chose, what they did when their center of choice was "closed," and how they behaved at their centers). The students had 15 minutes at a center, then a break to clean up and touch base with me on expectations of center choices to make, and then one more 15 minute center choice. I filmed 3 days of centers of 30 minutes each. I filmed on a Friday afternoon during our regular math block. Friday was selected because centers are great to do as math skill reinforcement at

the end of the week, and it was the longest block of math time that I had during the week this year with the least amount of interruption (specials, support service pull-outs, etc.). I filmed math centers every other Friday over a period of 6 weeks (every other Friday was a center day that was used as data collection). Following each recorded math center lesson, I had the centers recorded onto DVDs from the iPad.

There was a gradual release model of choosing centers. On the first day, my co-teacher pulled sticks one at a time to let students select their first center. As stations filled up, those options were closed to the remaining students. However, for their second center choice, the students were given the opportunity to walk around and select their other choice. This rotation was on a first-come basis. If a center was filled by the time a student arrived there, he/she knew to pick another one. The second time I collected data on centers and video recorded, the students had received more mini-lessons about monitoring appropriate choices for oneself and evaluating behavior choices. My co-teacher pulled sticks again for the first center choice and centers were "closed" as they filled up. The second rotation was student-selected, now with the knowledge of some mini lessons on self-monitoring. For the third and final center recording, the students had the opportunity to choose *both* centers on a first-come basis.

The video helped to record what the students were doing for my own memory and as documented proof to compare to the students' own self-assessment of their center performance (on the student self-assessment rubric).

Student Kept Records: Center sign-in sheet

When the students arrived at a center, before they began they had to write their names on a sign-in sheet with two numbered areas (Appendix C, Figure 10). If the student was at the

center for the first rotation, he or she wrote his or her name in the first box. The second box was for the group of students who worked at that center for the second rotation. This practice was one that my class has been familiar with, as it has been utilized throughout the school year already. Therefore, this was a habit for my students. However, for another first grade class, this step may need some practice prior to collecting data, so there is no conflicting confusion or time lost from working at a center.

This form of data collection seemed less significant as others; yet, it proved to be rather helpful in a handful of ways. The check-in page allowed the students to keep track of which centers they had been to that day, to avoid repeat visits. The sheet was meant to reinforce the rule of maximum number of students per center. In addition, it provided confirmation for me who was at each center to match up to the recorded video. Finally, and most importantly, it showed me trends in which centers students self-selected, what types of students chose which centers, if choices were need based vs. friend or "fun" based over time, etc. (Falk & Blumenreich, 2005, p.107). Again, a lot of this information can also come from the videos, but at times it is inconvenient to refer to the 30 minute long video sessions for quick spurts of information that could be provided by this sign-in sheet.

Work Sample: Student self-monitoring rubric

For this portion of my research on self-monitoring social behavior, I wanted to put my video recordings (what actually happened), against the self-evaluations of my students (how they think it happened). I needed a form of self-assessment that would allow my students to score on paper how they think they did with their behavior and learning choices. I decided to design a rubric that would have four levels students could choose from to self-evaluate their social behaviors during math centers (Appendix C, Figure 11). In addition, a self-assessment rubric

collected from the students for each center day would show changes over time (Falk & Blumenreich, 2005, p. 107). The five social behaviors on the rubric that the students self-evaluated asked them to reflect if they made choices that were to their (and others') academic and social benefit. The four levels mimicked the gradients the students used on their Post-it's to self-assess their content knowledge. The lowest level, a sad face, meant the social behavior in question was not done at all. The second level, a neutral face, represented performance with help or the social behavior was done a little. The third level, a smile face, symbolized that they did the social behavior. The fourth level, a large smile face, signified that the student did above and beyond what was expected. The entire class filled out their rubrics immediately following the two center switches at their desks. I read through each part of the rubric as they selected their levels, reminding them what each level meant and clarifying each behavior listed by giving examples.

This form of data would allow me to see if the student self-evaluated in a reasonable manner that matched his or her performance from the video recordings. I could look to see if there were patterns of students who self-evaluated accurately or inaccurately and see trends across the class of ability to self-evaluate their behaviors and choices.

Student Interviews

One final source of data I wanted to collect were interviews from students immediately following a math lesson of recorded centers. I interviewed three students following each of the three center days. These students were pulled aside individually with me for a few minutes each following the completion of the self-assessment rubric (see above) in the back of the room, as the rest of the class transitioned into the next activity with my co-teacher. While I pulled three students each time, I tried to vary which students I pulled each center day by academic ability,

personality, and gender in the hope of finding many opinions and experiences to document. I asked the same general questions in each interview about student preferences, regarding the opportunity to self-select centers, and about their experiences to get narratives (Appendix C, Figure 12). I jotted down notes from their responses.

I hoped to use their recounts and thoughts of choosing math centers as additional perspective on student's self-selecting their learning activities. Their feedback could offer me greater insight into whether students are more engaged when there is increased independence and the chance to choose compared to just the self-assessment rubrics (Falk & Blumenreich, 2005, p.100). Additionally, I would compare the interviews of these students against their behaviors in the video recordings and their self-evaluation rubrics. While I could not interview all of my students, students who were could add another layer of my analysis in first graders self-evaluating their social performance.

By exploring self-assessment, self-monitoring, and self-evaluation through a triangulation of content knowledge, homework, and center activities, I hoped to provide an encompassing picture of a first grader's ability to self-monitor his or her own learning.

IV. DATA ANALYSIS

To analyze the data I collected to answer my research question, I planned to organize my findings around the three *a priori* themes explained in my methodology section: content

knowledge, homework, and social behaviors (Falk & Blumenreich, 2005). These three themes first appeared in the first three sub-questions of my research and have guided the formulation of my data sources and data collection. Content knowledge, homework, and social behavior were the three aspects of my classroom that were either required by the new teacher evaluation rubric or ones that I was curious to alter for outside reasons mentioned in my methodology (such as finding an increased participation in reading log homework). From my data analysis, I hoped to find one or two more emerging themes, or unexpected understandings, that I had not anticipated.

I divided my data analysis by each of my three themes and treated them as separate entities at first. Within each *a priori* theme, I coded my data sources. In my findings section, I planned to evaluate each theme separately, and then combine them for any overarching, discovered themes. So, I first conquered the theme of content knowledge.

Content Knowledge Data Analysis

I had six sets of Quick Checks (math lesson assessments) and Post-it's (on which students scored their understanding of the lesson's content). I looked at these two forms of data collection to answer my sub-question of, "What happens when students self-evaluate their understandings of taught content?" I also hoped to find other new findings related to my other sub-questions, "Which students are more capable of effective self-monitoring than others? Are there any trends amongst the students who can and those who cannot self-monitor effectively? What might be preventing some students from self-monitoring?"

Every time my students completed a Post-it note for a math lesson and the accompanying Quick Check assessment, I scored the Quick Check immediately and made a copy for me to keep and sent the original copy home. Next, I stapled each student's Post-it for the math lesson to its

accompanying Quick Check. Then I went through the class set of Quick Check's and attached Post-it's looking for outliers. My main goal was to look for the number of occurrences first graders overestimated their level of content understanding compared to their actual understanding. Since a Quick Check is scored out of five points, and four or more points is considered on grade level (i.e. appropriate level of understanding), I decided that if a student scored themselves as a three (independent level of understanding) or four (teaching level of understanding) on the content, and their accompanying Quick Check grade was also a four or a five, then the student self-assessed appropriately. In addition, if a student scored him or herself as a two (still unsure or needing assistance with understanding) and his or her accompanying assessment also scored below four points, then the student also gauged his or her content knowledge appropriately. The two data sources were considered a match because the student felt he or she understood the content, and his or her content assessment reflected an appropriate level of understanding. Any other different outcomes (varying combinations of Post-it and Quick Check scores) were placed on the top of the pile to be analyzed at a later time.

Once all the data was collected and I was ready to formally analyze everything, I revisited all six sets of Quick Checks and associated Post-it's. I coded several occurrences first by tally marks in for each set (i.e. lesson). I marked how many students misjudged their content knowledge by assessing themselves at a higher level of understanding than which they performed on their Quick Check. So a student who scored him or herself as a three or four in understanding, but only scored one, two, or three points out of a possible five on that lesson's Quick Check did not self-assess accurately. I coded these as "misscores." In addition, I tallied the number of times students scored themselves slightly overconfident. So, if a student rated him or herself as a four in understanding (the ability to teach the skill to another), but did not score a

full five points on the Quick Check for that math skill without help or clarification to complete the assessment, that student was marked as "overconfident" because he or she would not need help if they were truly a level four in understanding.

I also coded a few other occurrences that seemed to appear often in my analysis of the Post-it notes and Quick Checks. I tallied how many times students underscored themselves on content understanding. For instance, if a student scored him or herself as a one (no understanding or little understanding of the content) or two in understanding, but scored four or five points on the accompanying Quick Check (acceptable, on grade level scores), then that student as marked as "underscored." However, I did not weigh any students who underscored their understanding as "misscores," even though technically they were. This is because when I taught my students in a series of mini lessons about the importance of self-assessment and the four levels of understanding, I emphasized that at their young age, very few of them should or could have an independent or teachable level of understanding on most content. Therefore, my outlying students who underscored their knowledge did not count towards answering my question if first graders could appropriately self-assess, but I still wanted to see how often my students did this.

Finally, I wanted to tally how often my students could self-assess that they did not fully understand the lesson content, and this insecurity was also reflected in the scores of their Quick Checks. So, if a student scored him or herself as a two (needing help with the content), and also scored a three or fewer points out of a possible five on the associated Quick Check, I coded them as an underscore, but "accurate." I gave these occurrences this title because even though the student did not fully understand the material just yet, he or she recognized this weakness within him or herself and scored him or herself as such. Since a student's ability to accurately self-

assess the content was a sub-question of my research, these occurrences were not weighed heavily on answering that question. However, out of curiosity to look for emerging themes from my data, I kept note of how often this happened.

All of my tallies were set up in an *x*-*y* chart (Appendix D, Figure 1). Down the *y*-axis were the initials of my students and across the *x*-axis were the categories of the occurrences for which I was searching (misscores, overconfident, underscores, etc.). Within each category of codes, I used pink and blue pens, for girls and boys respectively, to visually find any commonalities or differences between genders. Next to each tally, I also noted from which lesson the mark came (the first lesson of the six sets was1, the second lesson set was 2, and so on) to see any patterns over time or lesson by lesson. I wanted to see if there were any patterns of students who did or did not have difficulty self-assessing, looking for groups of students who may have similar academic or social behaviors, etc. Anything I noticed was coded in the margins of the chart. These codes were added to my larger reflective analysis chart under "Content Knowledge" (Appendix D, Figures 4-5).

Homework Data Analysis

I collected six class sets of reading log homework from my students, a pre and a post survey from my classroom parents about the reading log homework, and one pre survey from the students about reading homework. I decided to analyze each data source separately for trends, and then combine the three afterwards to find overarching trends or patterns. My analysis strategies focused on answering my sub-question, "What happens when students document and self-manage homework assignments?" I was interested in seeing what happened when the flexibility with reading log homework increased from a set number of minutes of reading each

night, to recording minutes for just a weekly total. By searching for overarching trends across all three homework data sources, I was hoping to answer my other sub-questions, "Which students are more capable of effective self-monitoring than others? Are there any trends amongst the students who can and those who cannot self-monitor effectively? What might be preventing some students from self-monitoring?"

After each parent survey was closed to anymore responses, I scanned the results of each survey for feedback. While the pre-survey results did not influence or drastically change my data collection plan, I did keep their responses in mind going forward with my research. More importantly, I used the feedback from the post data collection survey to determine the format reading homework would be done for the remainder of the school year. The majority of the responses decided which reading log to use (the one prior to data collection, or the one used during data collection).

Later on, I coded each question's responses to find the viewpoints that the majority of the parents agreed on (such as level of child independence with the homework and extent of honesty on reading logs). I looked to see if opinions changed or varied before and after the data collection time period. Furthermore, I noted if the responses to each individual survey question matched the responder's/student's level of motivation, participation, and independence philosophy across all of his or her answers selected. This was not something I planned to do, but ended up being worth the extra time, as will be explained in my findings section. All of my codes were done in the margins of the response bar graphs and charts, and then the most significant themes transferred to a reflective analysis chart for my entire data collection.

Immediately after my students were given the pre-survey on reading log homework, I was interested to see their level of satisfaction with reading homework and how many students

would like to try reading for a minute total each week, instead of a number of minutes per night. While my student pre-surveys were completed anonymously, I was looking for classroom majority perspectives and home practices when I revisited their responses for complete data analysis. I coded how many students had positive reading homework experiences versus indifferent or negative experiences. Then, I coded the times of day that students did their reading log homework. Finally, I counted how many students liked reading for a set number of minutes per night versus reading for a weekly total. Using these three points, I searched for trends between the three survey questions and coded any that were significant. For example, I looked to see if there were any shared relationships between the number of students who had positive reading experiences and the number of students who read at bedtime. I wanted to see the students' levels of motivation and routine reading practices at home. These values were transferred to graphs to search visually for patterns (Shagoury & Power, 2012, p. 153). All of my coded patterns, or lack thereof, from the student survey discovered from this analysis went into the same reflective analysis chart.

Finally, I coded the six sets of reading log homework. Of course, as the homework was handed in each Friday for six weeks, I checked to make sure that the homework was completed and brought in to school. I kept these reading logs for a further data analysis following the six weeks. Since this data source was the main focus of my sub-question, "What happens when students document and self-manage homework assignments?" I spent the most time analyzing various aspects of their reading homework.

First, I wanted to code how many minutes each student read each week. I separated each weekly set of reading logs into three categories. One group was those who read the exact required amount of 100 minutes a week. A second group was students who read beyond 100

minutes. My final group was any students who did not meet the weekly goal of 100 minutes. I looked to see how many students fell into each group of minutes read, and noted which students were in each group for each of the six weeks. My motivation for analyzing minutes read was to see which students could meet the required 100 minutes asked of them on the new reading log. I wanted to see if a student's total number of minutes read a week changed over time. I also wanted this information to compare with the other topics I analyzed from the reading logs.

Next, a major motivation for the change in the reading log homework was to see if students and their families would appreciate, and take advantage of, the opportunity to self-select how many minutes of reading completed each day during the week, compared to the old practice of a set number of minutes to read each night. However, this new found flexibility meant that the student would have an increased responsibility to self-monitor and track how many minutes were read to reach the 100 minute goal. I was interested to see which students took advantage of this change and how often throughout the six weeks of data collection. Therefore, I coded and tallied which students continued to read for a set number of minutes every day of the week, regardless of the option to not to. The student could have read 20 minutes a night, 15, or ten. As long as the student recorded the same number of minutes read every day of the week, I counted him or her in my notes. In addition, I noted how often a student read for the same number of minutes each night during the week across the six sets of reading logs.

Third, probably the most important direction on the new reading log was for the child to keep track and record as much as he or she could on the reading log (including dates, book titles, minutes read, and a minute total) without parent help. This was critical for me to evaluate as this point would directly answer to my sub-question if first graders could self-monitor homework. Accordingly, I coded and tallied how many students recorded the majority of their own reading

log (versus an adult's handwriting) for each set of logs. In addition, I noted the names of the students who recorded their book titles and minutes for each of the six weeks of reading. I wanted to see if the same group of students was recording independently, which students were in this group, and how often they tried this more independent task week to week.

With all of this information from the reading logs, I made another *x*-*y* chart. The names of my students were on the *y*-axis and the various categories (number of minutes read in groups of 100+, 100, and <100, same number of minutes read all week, and students who self-recorded) were placed on the *x*-axis (Appendix D, Figure 2). I noted how often each student showed up in my tallies under each *x*-axis category and numbered in parentheses from which set of reading logs the tally came. So, the first week of reading logs collected was number one, the second week of reading logs was number two, and so on. This would show if the student had this behavior week to week, or it varied as the weeks of data collection continued. As I marked each student in the chart, I used pink and blue ink to search for gender differences between girls and boys, respectively. I also noted any missing reading logs that were never turned in, by gender color and number of reading log, as this altered the results for some weeks of data collection, and showed which students struggled with even completing the homework on time. I coded trends, patterns, and any possible relationships in the margins and these reading log notes were transferred to my larger reflective analysis chart under my second theme of self-monitoring homework (Appendix D, Figures 6-7).

Social Behavior Data Analysis

The final theme under which my data sources are organized is social behavior. Since student independence with activity decision is included in the current teacher evaluation rubric, I

wanted to try allowing the students to self-select and self-monitor their behavior at math centers. My goal was to find an answer to my sub-question, "What happens when students self-select appropriate math activities based on their needs/weaknesses/strengths?" I also hoped to find answers to my other related sub-questions that relate to all of my themes, "Which students are more capable of effective self-monitoring than others? Are there any trends amongst the students who can and those who cannot self-monitor effectively? What might be preventing some students from self-monitoring?"

My three main sources of data collection were video recordings of three days of centers (2 centers each day for 10-15 minutes), the student self-reflection rubrics of center behavior and choices, and a few student interviews following each of the three days of centers. Since all three sources went so closely hand in hand, I chose to analyze each day of centers' data simultaneously. Therefore, I chose to approach the analysis by center day in sequential order, rather than analyze each form of data separately.

Each day of centers for data collection, following the lesson, I reflected with my co-teacher on how the centers went. We discussed the student behaviors we witnessed and their self-evaluated rubrics. Informally I grouped rubrics into categories based on my initial feelings of student accuracy scoring their behaviors and choices. In addition, I took some quick notes following each day of centers for my own reference and reflections. I also used student interview feedback to guide decisions such as extent of student choice going forward with other data-driven center days and beyond.

For my formal data analysis, I started with the video recordings of the two centers done on the first day of data collection. I watched them on my laptop, as the videos were burned onto a DVD from the school district iPad that I used to film. In front of me I placed the

corresponding rubrics the students completed of their own assessment of their individual behaviors and the center sign-in sheets. As I played and reviewed the video of the centers, I coded student behaviors that I witnessed from the recording on his/her rubric page in the margin. Behaviors that I looked included voice level, extent of independence, choosing appropriate partners (something I have taught all year), emotions and reactions to events, choosing appropriate centers for his or her math ability, on (or off) task management, and group conduct. These were the behaviors I looked for as they most closely related to the accompanying rubric and answered my social behavior sub-question. Any group behavior or challenges were noted on that center's sign-in sheet with all participants' names. Some parts of the videos did need to be replayed for more observations or note taking.

Once I was done watching the videos of the two centers from the first day, I went through the self-evaluation rubrics one by one. I looked at the student's own scores he or she chose for him or herself and my codes of the behaviors I observed. If the student scored appropriately in all five indicators that they matched his or her actual behavior, I considered this person's rubric as a "match." So, if I had positive notes on a student's behavior, and that student scored at least a smiley face in all indicators, then he or she was coded as a "match." If a student made poor choices at a center, or needed help with directions, and these weaknesses were noted on his or her rubric, then I also coded this as a "match." While the student exhibited negative behaviors, he or she was aware of them and evaluated him or herself appropriately. In addition, due to the philosophy expressed to the students during self-monitoring mini-lessons that it is difficult to obtain an independent status, some students underscored their behaviors. These students were still scored as "matches," since they were only downplaying their behavior choices on their rubrics.

I also created codes for students who were not a "match" between their center behaviors and their rubrics. If a student had selected a level or two on his or her rubric that did not match my notes for that indicator's behavior, then I coded that student as a "partial match." So, if a student had marked that he or she knew the directions to the centers, but I witnessed and noted in the video that he or she had left the center to ask my co-teacher for help or clarification, then that student was a "partial match." The student was accurate on most indicators, save for one or two that did not align with actions recorded on the video.

Finally, in some rare cases, there were students who I had noted for multiple behaviors from the recordings. I expected these students to score themselves appropriately on many of the indicators on the rubric for their behavior choices. However, some of these students scored themselves significantly higher than what they should have to match their behaviors and choices. When students scored themselves significantly higher in three to five indicators than the level of behaviors they exhibited, I marked he or she as a "misscore." So, if I noted that a student was confused about center directions, chose an inappropriate center partner, and was consistently off task, and these behaviors were not scored as a sad or neutral face on his or her rubric, then I coded that student as misscoring.

For the small handful of interviews that I had from some students at the end of the three center days, I read through them by date and coded the first set of interviews after watching the first day of centers. I did not code the second set of interviews until I had reviewed the second day of centers beforehand. I wanted to make sure everything was analyzed chronologically, as the events happened, and wanted to look for changes over time. I coded overarching trends between students for each center day, and patterns found in the interviews across the three days of data collection related to similar or dissimilar preferences, experiences, and choices.

I repeated this process for the other two days of recorded centers, rubrics, and interviews. After evaluation of all three center days, I created a table to note the number of occurrences of student matches, partial matches, and misscores (Appendix D, Figure 3). Across the *x*-axis of my table were the codes match, partial, and misscore. The *y*-axis had the initials of my students listed. I color coded my tally marks pink and blue, for girls and boys respectively, to look for gender trends. Each tally mark was numbered in parentheses from which day of centers the mark came. The first day of centers was marked as one; the second day was two, and so on. I used this chart to find any hidden trends in my data. These trends, my conclusions from each center day, and interview notes were all added to my larger reflective analysis chart (Appendix D, Figures 8-9).

From the codes, trends, patterns, graphs, and charts I reflected on my data to reach conclusions about first graders being able to self-monitor their learning. I wanted to see to what extent across multiple areas of classroom instruction students were capable of self-monitoring and which, if any, groups of students were stronger with this skill than others. My themes used here are organized the same in my findings section, plus some additional findings and themes discovered through my data analysis.

V. FINDINGS

In this section, I will be discussing the results, themes, conclusions, and issues that have come from my research. I will examine my findings first by my three *a priori* themes of content knowledge, homework, and social behavior. Then, I will explore any other emerging themes, other findings, and overarching understandings from my research.

Content Knowledge

Once I had analyzed the data from my collection of math Quick Checks and the students' corresponding Post-it notes from six lessons, I learned several things about first graders self-assessing their content knowledge.

Student	Misscore	Underscore but accurate to grade	Underscore	Exceptional underscore	Overconfident
1				I(6)	
2			I(1) I(6)	I(5)	
3		I(3) I(4)	I(1)		
4				I(6)	
5			I(1)		I (3) I(5)
6	I(3)			I(4)	
7			I(3) I(5)	I(6)	
8				I(6)	
9					
10				I(2) I(5) I(6)	I(3)
11		I(3)		I(6)	
12			I(6)		
13	I(3)	I(6)	I(5)	I(6)	
14			I(1)	I(5)	
15	I(2)	I(4)	I(6)	I(1)	
16	I(1)		I(6)	I(2)	
17	I(3) I(4)	I(6)			
18				I(6)	I(1) I(3)

The letter "I" has been used for each time a student matched the criteria of a category. Numbers in parentheses represent the specific data set at which the student matched criteria. Pink text indicates female and blue text indicates male.

First and foremost, to answer my sub-question, "What happens when students self-evaluate their understandings of taught content?" it was evident that for a majority of students a majority of the time, first graders can effectively and accurately self-assess (Appendix C, Figure 13). Of the six class sets of 105 collected Post-it notes and coordinating Quick Check assessments, there were only six instances of students scoring themselves at a higher level of understanding than their actual content knowledge. These students scored themselves as a level three or four, but their Quick Checks scored below grade level in understandings (Appendix C, Figure 14). So, students misscored about 6% of the time. Considering their age, the fact that this

error only occurred about once for each of the six lessons surprised me. In addition, students who scored themselves at a lesser extent of understanding (usually a two), and also had a below grade level actual content knowledge score on their Quick Checks, occurred 6% of the time (Appendix C, Figure 15). While this was a small group of students who had not mastered the lessons' content just yet, they were still able to identify this deficiency and score themselves appropriately. This means, as a whole, my first grade students could with near accuracy self-assess their math content knowledge, without scoring themselves too far outside of their actual range of understandings. These results were exciting and helped me to realize that first graders in my own classroom are in fact capable of effectively self-monitoring taught content.

Delving deeper into my analysis results, 24% of the time my students either scored themselves as well below or slightly below, their actual content knowledge. As explained in my data analysis section, I did not penalize or negatively react to these students who underscored. My lessons on self-evaluating understanding and ability emphasized the concept that most students are still learning and doing things for the first time in their lives, and don't usually have mastery so early in life. So, students who underscored themselves as still learning the content and yet performed on or above grade level for their knowledge was not a disappointing result (Appendix C, Figure 16). If anything, the analysis shows that my students had understood the concept that one is always learning and improving, and it takes time and a lot of practice to become truly a master at a skill. If I could have first graders learn that about themselves at such a young age, then I would hope that knowledge would set them up for stronger work habits and a more motivated outlook on life.

Meanwhile, there were a few occurrences of students who were overconfident in their level of understanding that they had on the math content of a lesson. Five instances

occurred over the six sets of math lessons where students scored themselves as a level 4 (able to teach the skill to others), but either scored on grade level or just slightly below (Appendix C, Figure 18). None of them greatly misunderstood the content of the lessons, but they did rate themselves as capable of teaching the content to others, and yet they themselves made careless errors on their assessments. This means that 5% of the time students were overconfident in their math knowledge. Not to say that other students did not try to rate themselves as a level 4 on their Post-it's at times, but when those other students did, their Quick Checks reflected these strengths with high scores for content understandings. So, I did not put them in this category of overconfidence because those students that said they had a strong understanding of the content actually displayed that on the lesson assessments. Of the five times that students did demonstrate some extent of over confidence, four of those instances were from the same two students (two occurrences per student). The fifth occurrence was by a third student.

Immediately, I noticed that these three students (numbered 5, 10, and 18 on the chart) are some of my strongest math students, and not ones who have identified learning disabilities or are struggling with new math concepts. But, these three students did share other qualities. During math class, they tend to rush ahead during lessons and solve problems before receiving directions for them, or reading the directions themselves. As a result, I and my co-teacher have caught those students making careless errors and confusing themselves with the skills and expectations because they did not wait for directions. All three are more than capable of doing well with any math topic, but they let their eagerness get the best of them and they hurry through material, opening them up to making mistakes. Overestimation seems to have gotten the best of them when self-evaluating their content knowledge during a few of these lessons. It is

evident that students with these personality traits may need further practice self-monitoring or have more discussions to improve this fault of over confidence.

There was one math lesson that proved to be particularly interesting to me. The final lesson of the six for which I collected data was exceptionally challenging content. For the first time all year, the students were expected to use doubles plus one more facts, such as 3 + 4 (students had to know to use 3 + 3 = 6, and change the problem to 3 + 3 + 1 = 7). They were very comfortable and familiar with their doubles facts up to 12 + 12, but the students had never been asked to apply these facts to other addition problems. This math lesson in particular was a challenging one to teach, took longer than usual for the students to complete the components of the lesson, and required many practice problems and much more explaining than usual. Of the 18 Post-it notes collected from this lesson, on 13 of them the students underscored their level of content understanding. This was a significantly higher rate than any other math lesson included. Reflecting back on the expectations and student reactions of the lesson, it was evident that the students found the new skill more challenging (Appendix C, Figure 17). Strikingly, this was reflected on a majority of the Post-it's for this lesson. Most students knew that they did not feel as if they had mastered the content, and showed this with honesty in the rating they gave themselves for their understanding of the lesson. So, when the content was more challenging, the students had enough awareness to self-assess themselves as still needing some help to learn the math content.

It is worth noting some gender differences that were revealed from the chart I created during my analysis. In my class, the girls seemed more likely to properly judge their level of misunderstanding than the boys, and this was also reflected on their Quick Checks (scoring below grade level). Four girls had five instances of this occurrence, whereas only one

boy had one instance of this event. Therefore, it seems that the girls in my class were more accurate when it came to recognizing a weakness in understanding, and honestly reflecting that on their self-evaluation of the content. Is this because the girls in my class tend to be more focused and better listeners? Do those qualities mean they are more aware of their own understandings versus the given expectations than boys are? Do the girls in my class have stronger self-regulation skills than the boys, and as a result are more capable of acknowledging weaknesses? It could be coincidence, but the skewed data between boys and girls in this category is worth noting and questioning.

Furthermore, the girls of my class seemed more likely to underscore their content knowledge. This means that they were more likely to score themselves as a two (still learning the content), when in fact they scored on grade level on their Quick Check assessments. Of the eleven instances of this occurring, eight of them were from girls. Three of these girls were also from the aforementioned group who self-assessed as below grade level accurately. This result concerned me more than the one just discussed because I wondered why so many of the girls in my class felt this way about their math knowledge. Was it because they were just applying the concept that you are always learning and it takes time to achieve full mastery I had discussed with them? Or, was there a reason deeper than that? I did notice that a lot of these girls have been struggling all year with learning new content. Five of the seven girls have identified learning disabilities or are receiving basic skills instruction. They are more likely to ask for and need clarification, reassurance, or guidance during math. Maybe contrasting the group of three students with math overconfidence, most of these girls had some extent of a lack of confidence with math skills. They may have a lower self-esteem when it comes to their math ability, and this is reflected in their self-evaluations. So, I am left with wondering if this trend among these

girls occurred due to being more cautious and realistic about learning math content. Or, is it that these girls are lacking confidence in math and are more uncertain of their abilities than the boys of my class, and they underscore their math knowledge as a result?

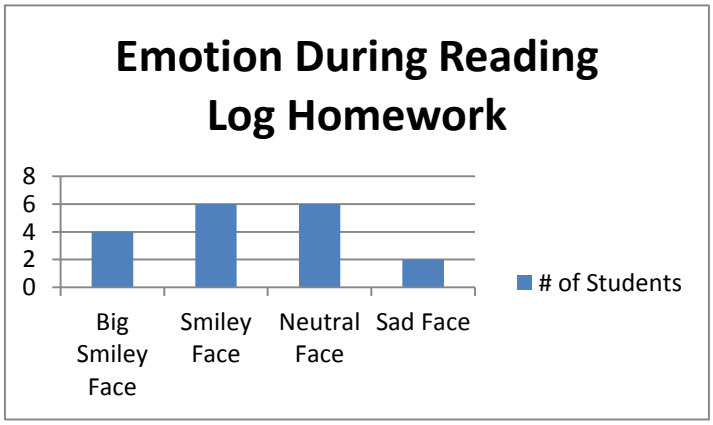
Finally, I looked for trends among the students who outright misscored themselves on their level of math content knowledge. Of the five students who had occurrences of misscoring, three were girls and two were boys. One of the three girls misscored two times in my data. All of the other students misscored once each. So, here again the results showed a majority of girls, but since the data was much closer to 50%, it was not as glaring of a concern as the events explained above regarding gender. Nonetheless, what trend was similar amongst the students in this group was their lack of self-regulation (not academic ability, as I might have anticipated, too). These are students that tend to be off task, lose focus, become easily distracted, and lack some extent of self-awareness that most first graders have. These are the students that do need checking in by a teacher often during a math lesson and require some additional redirection to make sure that they are following along. However, these five students are not the only ones who share these qualities. There are a few others in the class that have these common personality traits. So, then the question becomes, why did these students have occurrences of misscoring, while others did not? On the other hand, it is also worth noting that there were no misscores in the final two sets of lesson data, so it is possible that this handful of students just needed more practice self-evaluating than my other students before becoming more accurate, due to these social traits.

In summary, it was exciting to see that when given appropriate modeling and well-defined opportunities for self-evaluation, the majority of first graders can effectively and

accurately assess their content understandings. Trends and new questions arose from the findings that could address the outlying outcomes in the future.

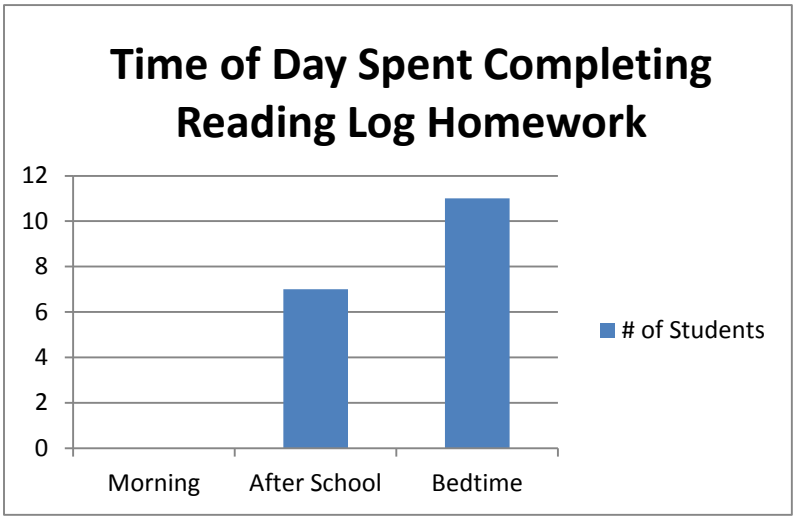
Homework

For this part of my findings, I will share the results of my research about students self-monitoring their reading homework. I will be discussing the answers of the student and parent surveys first, and then tie those findings in with the reading log data.

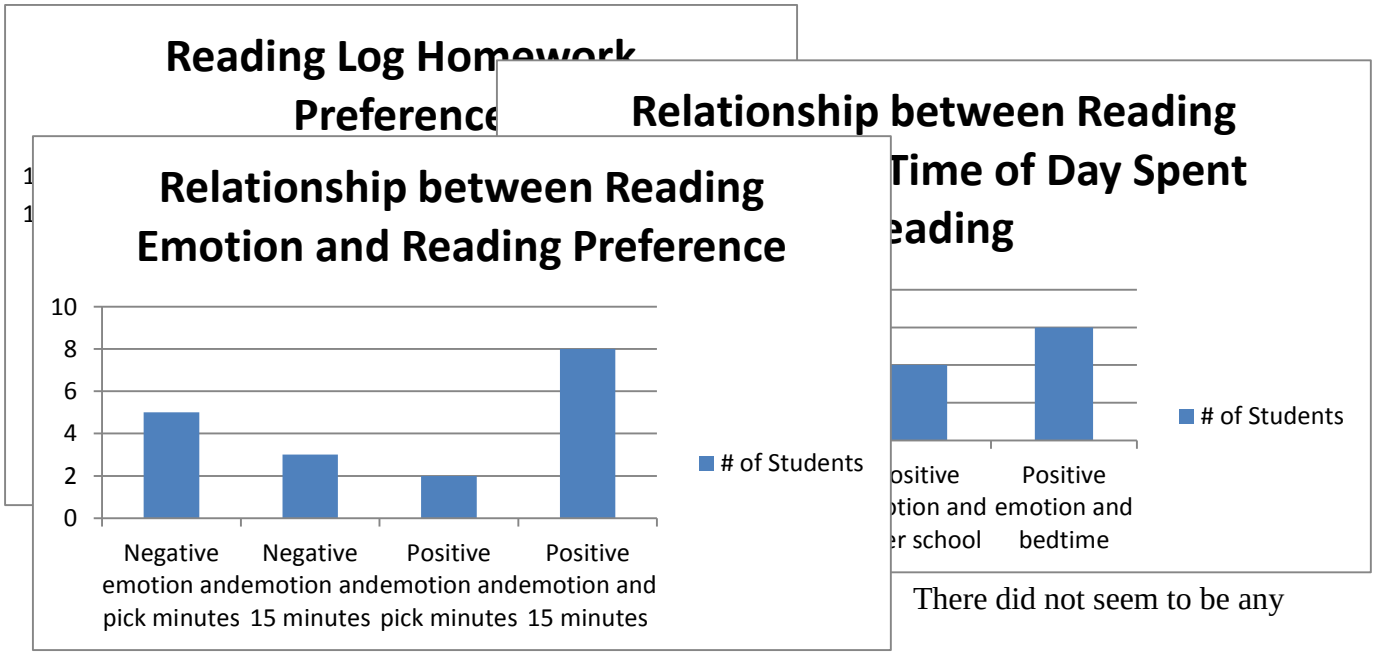


I tried my best to give my students questions about reading preferences more so than their opinions on reading homework, as to avoid them giving me the "right" answer to please their teacher. One question about reading emotion was unavoidable, though. However, I was able to find trends between some survey answers due to including this question about their feelings. Most of the students (ten out of 18) did have a positive emotion (big smiley face or smiley face) when reading for homework. However, eight students had a negative emotion with reading (*see above*). This result surprised me, as I was expecting more students to give a positive answer to please their teacher. So, the results were close to being almost 50% and 50%. Furthermore, most of the class (11 out of 18) read before bed (*see right*). It was interesting to see that this class still stuck to the classic reading routine before bed, considering so many of them have very busy lives with working families and

activities and games after school. I would have expected some students to read in the morning before school (since we start so late), but no one said that they did. Finally, I was surprised by how many students enjoyed the regiment of reading 15 minutes every night (11 out of 18) (*see below*). I was certainly anticipating that the students would jump at the opportunity to choose how many minutes of reading they could do a night themselves. Due to negative comments about homework from parents, missing homework assignments, busy lifestyles, etc., I thought with conviction that more of my students would welcome the change. These results did not affect my research plan altering the flexibility of the new reading homework; but, it did make me rethink my students' attitudes about reading at home.



Then, I looked for possible relationships between the three questions of the survey.



There did not seem to be any

relationship between the time of day that the students read for their homework and their reading emotions (*see right*). This was rather split down the middle. However, what was very interesting was the correlation between reading emotion and preference with the reading log minutes (*see below*). The majority of students who tended to have a positive reading emotion also liked to read 15 minutes each night (eight out of ten). Most of the students with negative emotions welcomed the idea of self-selecting the minutes read each night (five out of eight). I was excited about this revelation. Students who enjoyed reading also generally welcomed the routine of reading for a set number of minutes per night. Most students who struggled and disliked reading homework desired a change to the assignment. This result made me realize that some students who struggle with the reading homework may not always necessarily dislike reading at home, but struggle with the manner in which to complete the assignment.

As anticipated, the parent surveys were a little more challenging to distribute. I created Google surveys and emailed the surveys out to the parents of my class. I gave them a week to respond to both the pre and post surveys (prior to and after the reading log data collection). The first survey was sent out a week before the start of the December holiday break, since that was right before I would change the reading homework assignment. I was worried that I would not get my goal of 50% participation since it was a busy time of the year. Fortunately, I was able to receive 12 responses out of 18 families. Nonetheless, it is important to keep in the mind that the 12 families who did take the time to respond might also be more likely to be the families who do read with their child every night for homework, as they are more regimented, organized, and lead less hectic lifestyles (which could affect reading homework). I hope that I got a fairly representative pool of responses, but it is difficult not to assume that these parents are from some of my most involved families.

Some shocking results included that 50% of the families liked the reading log of 15 minutes per night and did not think a change was necessary to the assignment. I had always assumed that with today's busy lifestyles, parents would want more flexibility with the homework. In addition, 83% of the families stated that they were completely honest on all reading logs. Only two of 12 participants stated that sometimes they were not honest. I was expecting a few families to state that oftentimes they were not honest on reading homework. But, on the other hand, I did need to keep in mind that these could be the families that do read every night and do not feel the need to prevaricate their homework (Appendix C, Figures 19-23).

It is worth mentioning that most responses that included answers indicating busy lifestyles (four in all) also did not prefer the structure of 15 minutes of reading each night (three of the four). This related back to the student survey in those households that found the homework challenging wanted a change to the assignment. Additionally, in regards to parent opinions on self-monitoring, there was a three way tie on the question, "Do you think your child is capable of recording and tracking his/her own minutes on the reading log?" Some families felt their child needed a lot of help, some felt they could do it with help, and some felt they could do it independently. I found this result opposing the expectations that the current standards and curriculum ask of students. Educational trends are requiring our students to become more independent learners, yet these parents have very differing opinions on to what extent students should be responsible for their work. Is this a reflection of the current societal trend of cossetting our children for much longer than past generations? Or did the parents truly feel that their children were not capable of this skill? I wondered how this opinion would be reflected in the parent post survey responses and new reading log homework. I wanted to see if parent's opinions on self-monitoring would change following the new assignment.

The post survey was distributed during the final week of reading log data collection, which happened to be the week before the school's February winter recess. I told the parents that the survey would close upon our return to school from their break, which gave them one week to respond. In addition, I let them know that the reading homework assignment for the remainder of the year would be determined by the answers given in the survey. I had hoped giving the families the opportunity to have a voice and a vote in their child's homework would motivate them to participate again. Surprisingly, only eight families responded to the post survey. I was shocked, as I was expecting at least 50% participation (or nine families), since I had received so many from the pre-survey. For whatever the reason (parents were away for winter break, busy, disinterested answering a second survey, etc.), I did not reach my goal of 50%. So, it must be kept in mind that the results from this survey, while valuable and meaningful, do not represent a majority of my students' families.

While it was evident from the pre-survey that most families did not object to the format of the old reading log, there was an 87% consensus in the post survey results that the families liked the flexibility of the new homework. 100% of responders liked this new flexible reading log more than the previous one of 15 minutes per night. It had worked much better for most of the participating families for homework, and they welcomed continuing this routine going forward. Most responders that gave very positive feedback also seemed to say that they were very honest with reading log minutes. So, families that found this type of assignment easy and helpful also tended to be able to read more honestly (Appendix C, Figures 24-27).

There were two responders who gave multiple answers signifying that they had found this new method a little more challenging (between more flexibility, less honesty, and trouble letting the students record their own minutes), but they still did not ask to return to the past more

regimented reading log. These results did prove my original assumption that families would welcome more flexibility with homework.

This survey also revisited the questions from the pre-survey asking about the extent to which their child should be the one recording and tracking his or her reading minutes (a form of self-monitoring). While there were no responses for either the child should be able to do this completely unaided, nor should the parent be completing the log independently, parents were divided in how capable their children actually were with recording minutes. 50% felt that the parent had to record the minutes because their child had difficulty with this task, and 50% felt that their child could do this mostly independent, with only a little help from a parent. Therefore, these results still matched the equal divide from the pre-survey regarding how much independence the child should be given to complete the homework without assistance. It is challenging to know if the reasoning behind this is due to some parents not having the patience or time to let their child try self-monitoring, or if it is due to a larger social tendency to reserve from putting more responsibility on children. Are parents holding their own children back from this skill, or was it truly too difficult for a portion of them to record their reading homework? Overall, it seems that parents still want to have some extent of participation and involvement in their first grader's reading homework, and it is not something many feel the child should be doing completely independently.

Then, there were the results from the reading logs themselves. I used the chart I created from my analysis to reach conclusions about reading log trends in regards to self-monitoring. It seemed that my most motivated or strongest readers were the students who continually read beyond the required 100 minutes per week. A majority of my students also read more than 100 minutes per week most of the weeks of data collection. Students who met the expectation of

exactly 100 minutes per week either usually read for 100 minutes every week, or started with only 100 minutes, and then gradually read over 100 minutes as the weeks progressed. There were few regressions. The students who tended to be my most struggling, or least motivated, readers in class also read for fewer than 100 minutes per week at times, or did not hand in their reading homework at all. Fortunately, there were fewer students reading less than 100 minutes, and fewer missing reading logs, as the weeks of data collection continued, and were reading at least the required 100 the final week. The results revealed that this more flexible reading assignment did not worsen reading participation, and in fact showed increased reading stamina over time. So, the opportunity to self-select and self-monitor reading minutes did not result in a decline of reading activity.

More importantly, eight of eighteen students had continued the routine of reading for the same number of minutes per night each week, regardless of the new option of flexible minutes. Clearly, these minute increments were self-selected, and these students maintained a set number minutes of reading each night during the week. Of the eight students who fell into this category, four of them did this for at least three out of the six total weeks of data. It was also interesting to notice that the students in this category were usually not my strongest readers, nor students who read more than 100 minutes a week. This made me wonder if students who are more likely to struggle with reading need to have a regimented amount of time to read in order to complete the assignment and stay motivated. When broken down into tasks of equal length, the students may be able to complete the reading with more ease compared to no given reading routine.

Going back to my sub-question, "What happens when students document and self-manage homework assignments?" I found that half of my students recorded their own book titles and minutes read most weeks. Two other students recorded their own homework for two of the

six weeks of data. Of the eleven students who did record their own reading logs, they were not always my top readers or the most self-regulated. Five students from this group were students who also continually read for over 100 minutes most weeks, though. The main commonality in this group is that most of them recorded their own homework for the entire six weeks. Is this because the families of these students followed through with the directions on the new reading log directing that the child be the recorder, or did these families have the most patience and time to try this with their children every week? Either way, it is interesting to see that this near 50% split in the number of students who did and did not record their reading minutes matches the equal divide among parents in the surveys stating the extent to which first grader's should be recording their reading homework.

Student	More than 100 minutes	100 minutes	Less than 100 minutes	Same # of minutes all week	Recorded own reading log
1	I(2) I(5) I(6)	I(3) I(4)	I(1)	I(3)	I(1) I(2) I(3) I(4) I(5) I(6)
2	I(2)	I(1) I(3) I(4) I(5) I(6)		I(3) I(4) I(5)	I(2) I(4) I(5) I(6)
3	I(4)	I(6)	I(1) I(2) I(3) I(5)	I(1) I(3)	
4	I(2)	I(1) I(3) I(4) I(5) I(6)			I(1) I(2) I(3) I(4) I(5)
5		I(1) I(2) I(3) I(4) I(5) I(6)		I(1) I(3) I(4)	I(5) I(6)
6	I(1) I(2) I(3) I(4) I(5)	I(6)			I(1) I(2) I(3) I(4) I(5) I(6)
7	I(6)	I(1) I(2) I(3) I(4) I(5)		I(1) I(3) I(4) I(5) I(6)	I(1) I(2) I(3) I(4) I(5) I(6)
8	I(1) I(2) I(3) I(4) I(5) I(6)				I(1) I(2) I(3) I(4) I(5) I(6)
9	I(1) I(2) I(3) I(4) I(5) I(6)				I(1) I(2) I(3) I(4) I(5)
10	I(1) I(2) I(3) I(4) I(5) I(6)				I(1) I(2) I(3) I(4) I(5) I(6)
11		I(6)	I(5)	I(5) I(6)	I(5) I(6)
12	I(2) I(3) I(4)	I(1) I(5) I(6)			I(1) I(2) I(3) I(4) I(5) I(6)
13		I(3) I(5) I(6)	I(1)	I(1) I(3) I(5) I(6)	
14	I(4)	I(1) I(2) I(3) I(5) I(6)			
15	I(1) I(2) I(3) I(4) I(5) I(6)				
16		I(3) I(4) I(5) I(6)			
17	I(1) I(2) I(3) I(4) I(5) I(6)				
18	I(3)	I(1) I(2) I(4) I(5) I(6)		I(2)	
	No reading log:				
	11: I(1) I(2) I(3) I(4)				
	13: I(2) I(4)				
	16: I(1) I(2)				

The letter "I" has been used for each time a student matched the criteria of a category. Numbers in parentheses represent the specific data set at which the student matched criteria. Pink text indicates female and blue text indicates male.

In summary, most first graders can, and will, self-monitor their homework assignments. The students welcome the flexibility of these types of assignments, as do most families. Some families feel that there should be some extent of parental assistance with reading homework, but do agree that their child should participate in monitoring their progress. Finally, those students who struggle with the subject content, or families who struggle with completing reading homework, tend to find self-monitoring more challenging than their peers.

Social Behavior (at Centers)

Here, I will discuss my findings from the data analysis of first graders self-monitoring their behavior choices at centers. I was looking to answer my sub-question, "What happens when students self-select appropriate math activities based on their needs/weaknesses/strengths?" I was attempting to see if students were capable of making appropriate choices for themselves during math centers, and then accurately reflect and evaluate those choices immediately following. Since the data for this theme were analyzed as interrelated components of the same event, this section will be more narrative than the others so far.

Student	Match	Partial Match	Misscore
1	I(2) I(3)	I(1)	
2	I(2) I(3)	I(1)	
3	I(1)	I(2) I(3)	
4	I(2) I(3)	I(1)	
5	I(2) I(3)		
6			I(1) I(2) I(3)
7	I(2) I(3)	I(1)	
8	I(2)	I(1) I(3)	
9	I(2)	I(3)	
10		I(3)	I(1)
11	I(1) I(2) I(3)		
12	I(2) I(3) I(4)		
13	I(3)	I(1)	I(2)
14	I(1) I(2)	I(3)	

15	I(2) I(3)	I(1)	
16	I(1) I(2)	I(3)	
17	I(3)	I(1) I(3)	
18	I(1) I(3)		I(2)
	Students absent for centers and/or rubric		
	Day 1: 5, 9		
	Day 2: 10		
	Day 3: none		
The letter "I" has been used for each time a student matched the criteria of a category. Numbers in parentheses represent the specific data set at which the student matched criteria. Pink text indicates female and blue text indicates male.			

The first day of centers was my starting point. I just wanted to see what would happen when first graders had the chance to choose their centers. That first day ended up being the worst of the three. Many of them arrived at centers and had already forgotten the directions for that activity. My co-teacher need to assist a lot of students at various centers and some even approached me while filming to ask for help! The students were vying for the centers they had decided that were the most "fun" to the point that on the second rotation, six students ended up at the most popular station where there should have only been four. My co-teacher and I did not bring up this group's mistake until the two rotations were done. I wanted to see if this group would appropriately score their choices accordingly. In addition, students were more likely on the first day to go to centers to be with classmates that they knew they should partner with (something discussed in my classroom from September onward). As a result, the behaviors I observed from my students in the video were noticeably off task.

Then, when the students self-assessed their behavior from the two centers, it was evident it was a challenge for them to evaluate with honesty and awareness. Most students ended up scoring in the partial range (eight) or as a misscore (two) out of 16 completed rubrics. Only six students completed their rubric in a manner that corresponded with their behavior choices. In fact, some students in the group that did not follow the directions for how many students could be in that group scored themselves as if they were not part of that center and its poor decision-

making. The two students who were a misscore also generally lack self-regulation on a daily basis (Appendix C, Figure 28). They tend to be disorganized, off task, out of their seats, and not always socially aware in conversations with peers. It was evident that these two students did not think that their center choices were inappropriate, or if they had, they felt they could justify that they had been making good choices, if they scored themselves as such on their rubrics.

Furthermore, I realized that I had interviewed one of these misscoring students immediately following the math center lesson. When reflecting on and rereading my notes from this student in my interview with him (labeled number 6 on the chart), I realized that this student's answers were all over the place. He was not answering the questions that I was asking him; rather he was more or less retelling his center experience and validating his choices by putting blame on peers that were at his centers. Additionally, he was trying to give answers to some questions that he anticipated I wanted to hear, even though they were not practices that he had done himself (Appendix C, Figure 29). In his own mind, this verbal justification and righteousness would validate that he had made good center choices, when in fact he had not for most of the lesson, as seen in the video recordings. The student was aware that his behavior had not been stellar compared to his peers; so to compete with his friends, he depicted an image that he was comfortable sharing with himself and others (rather than accepting and verifying reality).

In my other interviews from the first day, it was also apparent that most students were vying for the centers that were the most "fun." This label could have been assigned to certain centers because some were more hands-on, more complex, and used new or exciting materials than the others. The general consensus amongst all those I interviewed was also that they preferred picking two centers to attend, rather than spending the time rotating and having a chance at all of them (which is normally what my co-teacher and I have done all year). Even if

they did not make it to a center they wanted to visit, the students favored the opportunity to self-select a few on their own than go to all of them.

The second day of center choice was much better than the first. It was evident from the video that the students made wiser choices with partnerships (evidenced by the center sign-in sheets and video), were more on task, and needed less assistance from my co-teacher and me. There was less overall chaos with selecting their second center, too. Mini lessons on making good center choices between the first and second center days had made quite a difference. One event worth mentioning during the second rotation of the day, there was a group of four girls working at a center. About halfway through the fifteen minute block of time, one of the girls (number 17) had left and was working at a neighboring center. My co-teacher assumed that she switched centers because the other girls of the group had been giving her a hard time. However, upon reexamining my video, it is clear that for the first five minutes, the student had been very argumentative with her group members, telling them her version of directions (which differed from the ones given). Eventually she gave up trying to convince them otherwise and joined another group as if the victim. Some of these behaviors were not indicated with a negative or neutral smiley face on her rubric, she did fall into the partial category for this day of centers (Appendix C, Figure 30). If it had not been for the video tape of these events, they would have been misconstrued by me and my co-teacher.

The rubrics for this second center day were more accurate. There were some students who exhibited less than stellar behavior choices in the video, but most of these students appropriately indicated these weaknesses on their rubric. Student 15 was using the materials at a center as playthings when it was not her turn in the game. She knew to assess this on her rubric with a more negative level of smiley face so she fell into the "match" category (Appendix C,

Figure 31). At the same time, there was another student (number 13) who made similar choices at the same center with her group, but did not indicate these poorer choices on her rubric. So, she became one of three students who were a misscore for this day of centers (Appendix C, Figure 32). There were 12 matches, two "partial" misscores, and three "misscores" out of a total of 17. So, while there were more students who self-monitored appropriately this time, there were still three students who misscored. Again, these students seemed to be ones who had personality traits of competitiveness, like Student 6, and/or a lack of self-regulation where the student did not think he or she could possibly have made less than stellar center choices (Appendix C, Figure 33).

From the interviews of this round of centers, the same trends persisted of wanting to attend a "fun" center. However, this time participants like Student 12 mentioned having to pick a different center because a good friend was at her first choice (Appendix C, Figure 34). So, some expectations discussed in my mini lessons did improve the social behaviors, and as a result the self-monitoring skills of my students. Students also expressed enthusiasm at the chance to self-select their centers.

On the third and final day of data collection, the students were at their best. We had reviewed some of the mini lesson discussions, but not to the extent as first taught a few weeks earlier. The students knew how to pick a center (or a back-up), get right to work, stay on task, etc. Others, such as my co-teacher and classroom aide, made similar comments that this was their best of the three center days. Again, my farthest outlier was Student 6, who was very loud, standing up often, and frequently leaving his center group to watch other groups nearby. Another student, Student 8, was also having a difficult time with being too loud, bouncing out of

his seat, standing frequently, and pouting when he did not get to go to his first center choice. Besides a few other off task behaviors, the class had a great day of centers.

When it came time to self-monitor their behavior choices, eleven out of 18 students had appropriately self-monitored. Six students were a partial match. For example, Student 8 did score some negatives on his rubric for his behavior choices, but others that should also have been marked negative were not. So, he fell in the partial category (Appendix C, Figure 35). Student 6 was the only student this time who rated himself with all positive levels, even though a majority of those should have been negative behavior ratings. So, he was the single misscore this round of centers (Appendix C, Figure 36).

Unfortunately, immediately after this lesson, the students were playing a math review game, so the students I interviewed were giving terse answers in order to jump back into the excitement. So, while the data from this set of interviews was not as deep as the other days had been, it was still valuable in showing the trends of the previous interviews. The students still enjoyed picking their own centers, even if it meant they did not get to do all of them. There was still competition to pick the centers that were the most "fun" or the easiest. These students also made comments that they were more aware of what choices they were making. For example, Student 12 stated that she chose a center because she wanted to work on that particular math skill (Appendix C, Figure 37).

In summary, I gained several central understandings from the analysis. My class of first graders was more accurate with self-monitoring over time, so they did need some instruction and practice in order to improve this skill as I collected data. Across the three center days, two-thirds of the students matched their actual behaviors to their behavior ratings on the rubrics. 30% of the time the students were partially accurate, sometimes indicating one or two behaviors

accurately. Only 5% of the time my students misscored several components when reflecting on their behavior. Students who tended to be self-regulated with their social behaviors were most likely to be accurate at their center self-monitoring. In addition, girls seemed to marginally score as a match more often than boys. But, this could also be due to the fact that the girls in my class this year tend to be better behaved than my large group of impulsive boys. The students who scored in the partial range do tend to struggle more often with regulating some of their behavior choices this school year overall. This category of partial students (and that the "match" category, for that matter) do not show any correlation to math ability. Some of the students who were more consistent "matching" are weak in math content. Meanwhile, some of my brightest math students were partial or even misscoring (like Student 10). In regard to those who did misscore, those students fell into the two categories of either being my most competitive or are unaware. Students 13 and 18 typically need to be made conscious of behaviors they are choosing to exhibit, and in their own eyes struggle to notice that they did anything outside of expectation or reason. On the other hand, Students 6 and 10 are very competitive and generally off task during the school day. One student does have more academic struggles, but the other is one of my brightest. While possibly being aware that they had made poor choices, it seems as if they used their rubrics to score themselves higher than reality to vindicate their beliefs that they were in fact doing the right thing just like everyone else in the class. It is also worth noting that there were more instances of boys misscoring than girls.

Moreover, I learned that most first graders can learn to apply some self-monitoring skills such as choosing good partners to work with and having a back-up plan. They struggled with other choices though, such as competing for math centers that they deemed the most "fun," rather than challenge their math abilities or skills that needed practice. This was

something I had anticipated after reading Edens and Potter's (2012) research on student center choice. Of course, those students who were best at choosing partners and working at the more unpopular centers were also the most on task and better behaved because they were less likely to see those activities as "games" and more as a math assignment. Meanwhile, those students who did attend the "fun" centers were more off task and not making the best behavior choices. What was most eye-opening to me was that the students enjoyed choosing their centers and did not feel as if they had "missed out" on the other centers. It made me rethink how I design my center lessons in all subject areas. If all of the center choices in a lesson are on a more level playing field of interest, I do think from this data that most first graders can self-monitor their social behaviors.

Other Findings

There was one other form of data collection that I did for this research, but it was not part of my research plan, nor did it fall in one of the three above categories. I found online that one teacher had designed a rubric with her first graders about self-monitoring their independent work. She had her students rate the quality of their work before handing it in to the teacher, as she was tired of receiving assignments that were completed hastily, unfinished, and with many mistakes (Hamlin, 2014). I used her blog post about the lesson and her classroom's chart as a guide for my own mini lesson about self-monitoring independent work.

With some guidance by my co-teacher and me, we created three levels of work and several components that would guide the students in deciding which level of work they had done. One of my co-teacher's favorite sayings all year has been, "Work with pride!" We used this motto to design our own rubric (*shown on right*). If the student did score themselves with a neutral or sad face on an assignment, I told the students that they would have an opportunity to receive the page back to make corrections or complete it. If the student scored themselves as one level, and I felt it was more deserving of another, the student also would have a change to revise the work again. The students gave responses that they liked the idea of having a second opportunity to improve their work.

So, for a few assignments, like morning work, I had the students put a smiley face in the top corner of their assignment before submitting it. While I did not analyze this data, informally, I was blown away by the quality of the work on these assignments. Handwriting was neater; students made fewer careless errors; and, they took the time to add some color if they could. If anything, students were spending more time than they probably should have on these tasks to make them look good! The quality of their independent work vastly improved. While this is something that I did not make routine after data collection (sometimes I just plain-old forgot to remind them to put a smiley face on top!), it is definitely a strategy that I would recommend to other early childhood teachers as it was effective in getting the students to self-monitor in an

appropriate manner. Some examples of what their work looked like are in the appendices, if this is an instructional method that is of interest (Appendix C, Figures 37-41).

Overarching Themes

From the findings of first graders self-monitoring content knowledge, homework, and social behaviors, I was able to reach the following conclusions and overarching themes. I used my central research question, "What happens when first graders self-monitor their learning?" and the following sub-questions. What happens when students self-evaluate their understandings of taught content? What happens when students document and self-manage homework assignments? What happens when students self-select appropriate math activities based on their needs/weaknesses/strengths? Which students are more capable of effective self-monitoring than others? Are there any trends amongst the students who can and those who cannot self-monitor effectively? What might be preventing some students from self-monitoring?

When looking at my research question, and what my data revealed, it is clear that a majority of my students are capable self-monitoring. When given clear purpose and goals, students can apply self-monitoring methods in a way that is beneficial to themselves as learners and to their teacher. Their own self-evaluations can increase their motivation and level of reflection, while demonstrating to the teacher what content, skills, or behaviors he or she may need to work on with the students. Most first graders can recognize challenges, work towards showing progress and growth, and find strengths and faults in their own personal choices.

Typically, the results revealed that self-monitoring does not necessarily have a correlation to academic ability, but rather to self-regulation. Students who may struggle learning new content, but had skills such as work ethic, focus, and emotional control were also more consistent

with their self-monitoring. Meanwhile, students who had more difficulty staying on task, were overly competitive, or to an extent were unaware of some of their actions (even if stronger students academically), had more of a tendency to misjudge their levels of understanding and behavior. These students were more inconsistent with their self-monitoring. Traits such as overconfidence, lack of confidence, competitiveness, and self-regulation could all be considered to relate to ego-centrism. Students who struggle with ego-centrism can have an "inability to differentiate subjective and objective perspectives" (Hill & Lapsley, 2009). Since self-monitoring boils down to a student being able to objectively look at his or her own learning, it is possible that these students may not yet be able to resolve this inner contradiction.

Of course, because first graders are six and seven years old, it felt as if no amount of mini lessons on the topic could get them to focus more so on challenging their math understanding, rather than completing activities that seemed the most enjoyable. First graders love the novelty of activities, interesting materials, hands-on procedures, and tasks that appear easier than other choices. When given the option, they desire to have the opportunity to experience the new and exciting than what they decide is the challenging or the mundane.

There were undoubtedly correlations between genders. Girls seemed to lack confidence, and reflected this as such when self-monitoring. However, they were more accurate in gauging their strengths and weaknesses than boys. Boys (especially the least self-regulated) struggled with self-monitoring honestly. At the same time, the first grade boys showed overconfidence (at times to a fault) more so than the girls. Yet, they were also more likely to self-monitor at home than the girls.

While it is hard to know which families they were in my data, there seemed to be connections between academics and responsibility with home life. Certain students did

consistently self-monitor at home, while others not at all. In addition, some of the struggling students needed more structure with homework at home, while others welcomed increased flexibility. There must be some relationship between home life and parenting and which students are using self-monitoring skills for homework.

These outliers related to self-regulation, gender, and home life relate back to the writings of Edens and Potter (2012), Perry and VandeKamp (2000), and Sanders and Mazzucchelli (2013). Undoubtedly, some students in a classroom will struggle with self-monitoring skills regardless of academic strengths. Students will enter a classroom with antecedents that may be out of a teacher's control. With patience and time, as they all state, these antecedents can be overcome and those students can be taught self-monitoring in some capacity. Even Falk & Blumenreich (2005) explain when the youngest students have more opportunity to track their own learning, "they become more aware of their learning" and "develop a sense of responsibility, control, and ownership of their work" (p. 108).

So, what happens when first graders self-monitor their work? They are impressively precise and straightforward. They are more honest and more qualified than I had ever thought possible. When given the opportunity, with the right supports and methods, first graders welcome the chance to show what they think they know and can do. And, they have quite a lot to say about it!

VI. DISCUSSION

In this final section, I will be discussing this research's impact on my students' learning, implications for other teachers, obstacles and limitations, emerging questions, and my final conclusions.

a. IMPACT ON STUDENT LEARNING

One of the most rewarding parts of this research has been seeing the students applying these self-monitoring skills to education-related areas and other skills.

Recently, two of my basic skills students had received instruction on a subtraction skill that the rest of the class had not yet learned. So, when the entire class tried this new subtraction method together, I had my two basic skills students come up to the board to demonstrate a few problems for the class. This was more meant to be a confidence boost for those two students

(both lack some math self-assurance). Some of the other students immediately said that their two peers were definitely "a four" because they were teaching the class something. I agreed with them that those two students were a four because they were teaching the lesson to the class, and smiled that they knew to recognize and apply some of those self-monitoring methods.

My students can now understand that constant monitoring of progress is essential and it is useful. Many rethink their choice of centers or partnerships and will vocalize when they end up working with someone they shouldn't. They want to make sure it is acceptable for that activity to work together, or find another center to go to split up. I don't think this would be something that my students would be cognizant of, if not for my research. It is worth highlighting that the purpose and expectations of self-monitoring had to be clear to these students, as Palmer and Wehmeyer's (2003) and Louis (2012) suggested, in order for the students to be effective with this skill.

Granted, there are a few students who did regress to over-scoring themselves over time. I have a student teacher now in my classroom, so they do not self-assess their content knowledge as often as they were before she started with us. Since Post-it's are no longer part of the classroom routine, when they are used I do have a handful of students who do score themselves as a three or four in understanding, when they are not there yet. I know a few follow-up mini lessons on self-monitoring would get them back on track, but that is difficult to find time to do now that I share this classroom with not one other teacher, but two. While my research results were a bit inconsistent across my three themes of study, it does not surprise me which students need refreshing with this skill. The students who need the most help are also the ones who were not always accurate during data collection in one theme or another.

While this research did require finding teaching time, adjusting some of my instruction, and analyzing a lot of data, without a doubt I would do it all over again if it meant my students would be aware of and learn a skill that they could use throughout their lives. This research originally started as something to benefit my teaching, but ended up helping my students more so than me.

b. IMPLICATIONS

Several implications for me and other educators have come from this study. This research has revealed that most first graders can self-monitor their learning. For a teacher, including this skill in lessons, practices, and reflections is worthwhile, as most students can self-monitor. So, the most significant implication is a critical change in teaching approach and increasing students' responsibility to track more of their own learning.

I had been resistant to taking the time showing my students how to self-monitor, with the assumption that the time would have been wasted trying to have the students use a skill that they were not capable of yet. However, it is evident that from the efforts of mini lessons and minor changes to lesson planning and homework that showing my students how to self-monitor was more than worth the time. Not that I had not given my students increased responsibility or higher expectations in my classroom before, but I think now including self-monitoring expectations has raised my teaching to beyond just content and social skills. My students now have the opportunity to reflect on those concepts themselves, which I had never done before. I have learned to give my students more credit for this level of thinking, and let them step up to that opportunity often in the classroom.

This means that for other first grade teachers (and any other grade or subject area educator for that matter), it is certainly worth trying to teach some self-monitoring skills. Not only does doing so improve the assessments of your students and teaches the students valuable life skills; but, with the current trend on more student responsibility in the classroom, self-monitoring can boost a teacher's evaluations and reputation as an effective teacher. Furthermore, if most first graders can self-monitor their work, I would like to assume that older students can, too. Modified, some of my methods could possibly be effective in kindergarten and pre-school classrooms. If a teacher can find time for a few mini lessons (I did mine when we had a five or ten minute block of free time between subjects or at the end of another lesson), it is worthwhile to teach and incorporate these management skills. Doing so made them aware of what it is, when they are doing it on their own, and how to set clear goals and expectations to increase motivation.

At the same time, to some extent there are trends that arise from the research that influence teaching implications. Not all students are capable of self-monitoring due to what seems to be self-regulation and ego-centrism. This skill could also potentially be something that is not outgrown as a student develops and grows, since these tend to be preexisting conditions prior to learning self-monitoring in the classroom. Additionally, since the current society is postponing teaching certain life skills to their children that were once typical in generations past, showing students how to self-monitor in today's society may be more or a challenge than it could have been decades ago. Teachers need to consider these implications when introducing self-monitoring to their classrooms.

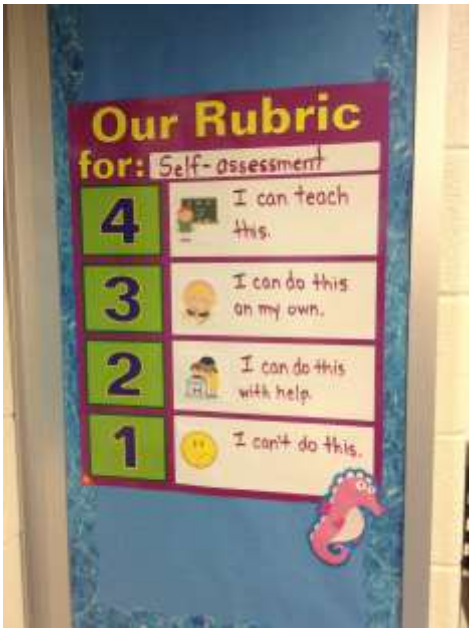
In summary, this research is meaningful for teachers of all grades and subjects because if first grade students can learn to self-monitor their work in a typically effective manner, then so

can other students who are the same age or older. When the data continually shows a success rate with self-monitoring, as expressed in the literature review, it is impossible to ignore that self-monitoring could be replicated in most other classrooms.

c. OBSTACLES

Prior to beginning my research, I noticed that I had to address my students' knowledge of self-monitoring skills. I had my students try several times to self-assess their understanding of content across subject areas. Informally, I noticed that the biggest trend, and largest area of concern I had, was the number of students who scored themselves too high relative to their actual content understanding. I feared entering this research that my students would always score with over confidence and could never appropriately judge their content knowledge. So, I took the advice of the authors from my literature review that encouraged a gradual release model of self-evaluation. Before my students began self-assessing their math content knowledge for data collection, I spent a week on a series of mini-lessons discussing the importance and benefits of self-monitoring in first grade, and beyond, and discussing the numeric levels of self-assessment.

From the first day or two of mini lessons with my students on the topic of self-monitoring, they were able to reach the conclusion that we stop and evaluate ourselves on what we have learned and know in order to understand what we need to continue to learn and work on to improve. This reasoning is what was most valuable and meaningful to my students to motivate them to try self-assessment. They learned that if they could recognize what they still needed to work on and practice, then they would know to improve those skills over time. During the same week, I introduced them to the four levels of understanding and placed the levels on



charts around the room (*one shown on left*). These levels were presented with wording that the students could relate to and apply. A level one means no understanding, or very little understanding. A level two means you can do the skill or know the content with some help. Level three means you can do it independently. A level 4 means you can teach the skill to others. From here, my co-teacher and I tried to have a discussion with them over what constitutes being a level two or a three. We used ourselves as examples of what we made us a level one, two, three, or four at various skills. I realized very quickly the students weren't getting it. They were scoring themselves as a three on piano when they had never had a piano lesson in their lives and a four in football when they had just started playing the sport for the first time months earlier. I knew I had to do something for them to understand how this system worked; otherwise, the data I collected would be meaningless.

I found online a lesson for teaching the numeric levels of understanding which included pages of 20 mostly non-academic skills like ice skating, tying shoes, skiing, riding a bike, etc. ("Introduction to Marzano's scales and rubrics," 2014). Beneath each skill were the numbers zero through four. The students had to score their level of ability for each task (Appendix C, Figures 32-45). They did not put their names on the papers, as I explained they would be getting cut up anyway. Next, I cut up all of their answers task by task and then grouped them by the numeric level selected for each task. So, if a student circled a two on tying

shoes, I put them with all the other students who selected a two for tying shoes. Then, I got an enormous piece of bulletin board paper and separated it into sections numbered one through four. All the tasks that were circled as a level one in the class were glued down in the section labeled "one," all the tasks that were chosen as a level two were glued into the level two section, and so on. When I was complete, it was extremely obvious how skewed the results were (*shown above*). The students could visualize instantly (that even with a few obvious outliers), the majority of them were only a level one or two on most skills and tasks that first graders might have not much exposure to or experience with just yet (such as fishing, basketball, and skiing). A smaller portion were a level three at tasks that made sense a first grader might be able to do independently (like shoe tying, letter sounds, and riding a bike). Finally, of all the hundreds of

skills I glued down, there were only three tasks glued in the level four section (one for bike riding, one for shoe tying, and one for counting to 100).

The students ultimately could see that not only were they themselves still learning how to do a lot of things, it was acceptable because so was everyone else in the class. No one in particular was more capable than the rest. For my rather competitive group of students this year, this was a crossroads and rather humbling for them. One student said it best while flipping through a book about the game of football, "Look at that guy jump in the air to catch the ball! Now *that* guy is definitely a four in football!" When this clicked and this discussion was shared with the rest of the class, I think there was a breakthrough in understanding that in first grade, no one is perfect. I put this chart up in the front of the room where everyone could see it and used it as a reference with my students throughout data collection. Once my students were finding true examples of what a level three or a four really looked like on their own (such as professional athletes and their own parents), their ability to self-assess turned a corner.

At the same time of giving this lesson later on in the week, I found juxtaposition between this lesson and the research itself. The goal of my research was to find ways of improving my instruction, so that in turn I would receive more four's (the highest score possible) on my evaluations. Yet, as part of my research, here I was standing in front of my students telling them that it is highly unlikely that they themselves will ever reach perfection or accomplishment in most life skills! I had to tell my students that they can expect to not reach a level three or four often, when in fact from my research, those are the same scores I was hoping to obtain myself.

Mini lessons were also needed for my theme of social behaviors. Prior to the second day of math centers, I had to teach some mini lessons about center choice. One day, for

example, we discussed picking the same center as a close friend. Another day we had a lesson about picking a center that focused on a math skill that you needed to practice. Eventually, the running theme of these lessons became, "Making choices that are good for… you!" as my students coined it themselves. They learned not to decide on a center just due to the other people working there or if it seemed "easy," but to rather make choices that would benefit them to become stronger in math. In addition, I discussed having a "back-up" center choice; so, if a preference was no longer an option, students could quickly move to another one. Some of these ideas, such as pick good partners, were placed on a chart in the room as both a visual reference and reminder.

From these types of mini lesson discussions, my students were more comfortable with self-assessment and were more honest in their evaluations of their content understandings and center behaviors. Without question, if I had not developed a purpose with them for self-monitoring, discussed it, modeled it with my co-teacher, practiced it, and helped my students to memorize it, no part of my data collection would have had the same value. Once my students knew the expectations and what it all meant, everything changed for the better and I felt good about my research. Therefore, one of the most important things to come out of this research was learned before data collection even formally began, as Perry and VandeKamp (2000) had emphasized in my literature review. First graders need to be taught self-monitoring in a gradual release model for them to understand the skill's value and meaning.

d. LIMITATIONS

Naturally, for a project of this size, there were unfortunate limitations to the research. Some of the most significant will be discussed here.

One of the most critical obstacles was time. The time limit to collect data put pressure on me to try cramming all of my data collection into a short period of time (about six weeks). Having several months to collect data would have not been as stressful on me as a teacher and possibly produced more clear and definitive results. In addition, teaching my students about self-monitoring took time. On one hand, it was a blessing that this year I have a co-teacher in the classroom with me all day. Without question, together we are more productive completing lessons and covering content. So, this year we did have several instances where we had enough free time between lessons to squeeze in mini lessons on self-monitoring. However, some days I had a mini lesson planned that I could never find time to teach. If I had been teaching in a general education classroom as I have before, it would have been even more challenging finding time to teach these skills. Time usually tends to be the first answer other teachers mention when talking about finding time to teach self-assessment. I could certainly understand that struggle, but for the purposes of this data collection, I made and found time to teach what was necessary to help my students understand what to do.

Limitations on participation definitely skewed some of my data collection. I had a small handful of students who did not hand in reading log homework for multiple weeks. The assignments did not even come in late to analyze the data later on. So, some weeks I had several missing students' data. If I had had their work, I am sure some of my findings would have concluded differently. The parent surveys were a bit of a disappointment. I made the form online and emailed it out because I figured today's busy families would appreciate an email reminder and a convenient, fast survey. However, I still barely made my goal of 50% participation with the first survey, and I was below 50% on the post survey. Even with multiple email reminders, I still could not get an impressive participation rate. Additionally, with the

anonymity of the surveys, I could not know which families answered and which ones did not. So, it was impossible to make connections between the families (and their known dynamics) and the reading log homework. If survey participation had been higher, I would've felt like I had more decisive findings. Due to my weekly classroom schedule, it was easiest to do math centers for the research on Friday afternoons during our math block because it was the least interrupted with special service pull-outs and specials. But, sometimes students would leave early at this time to go away for the weekend or a doctor's appointment. So, while some students may have been present for the centers themselves, they were called to go home before the end of the lesson where they self-evaluated themselves using the rubric. So, again, I was missing data from several students. It was harder to find trends amongst those students and compare them to the other students for which I did have all the needed data. This problem may have been less likely had I done these center lessons in the middle of the week, but my schedule limited my options.

Finally, there were other logistical obstacles. I had planned to video tape centers from an iPad placed higher up in the classroom to get a full vantage point. However, when it came down to it, that was not going to be possible and I had to hold the iPad and video tape from a location in the room that gave me the best view possible from standing on a chair. Unfortunately, this meant I still could not record or see the events of all the centers at once. I may have missed witnessing and filming behaviors that could have influenced my data analysis, but I could not find another way of effectively filming the students. I worked with the recordings and technology that I had. In retrospect, I wish there could have been a better way to video record everything. In addition, the math program I used for self-assessing content knowledge is new to the district this year. Since this was my first full year teaching it, I was not familiar with the expectations of each lesson. So, I did not always agree with the format of the Quick Checks used

for all of the lessons included in this data. But, this was the only form from the curriculum that would best correlate to the Post-it notes. If I had been teaching the math program longer, I may have adjusted the Quick Check questions to better match the content and expectations of certain math lessons. Obviously, this may have affected student scores, and in turn influenced students' effectiveness in self-assessing content.

As all teachers know though, most parts of our profession do not go according to plan or are as perfect as we had hoped they would be. I had to be flexible, accept these limitations for what they were, and continue with the data collection and research. If I had a chance to replicate this work, I would try to correct some of these obstacles. But for this paper I had to work with the information that I had to draw the best conclusions and findings that I could.

e. EMERGING QUESTIONS

There were several questions that arose from my research. All of them related to inconsistent or inconclusive results discussed in my findings.

First, I would be interested in investigating next year why there were noticeable trends between the genders. I observed that boys were more likely to misscore on their social behaviors, but girls were misscoring more often in content knowledge and were more likely to underscore their understandings or performance. So, I would want to know, "How does gender influence self-monitoring in first grade?" Do girls and boys have separates strengths and weaknesses that influence their ability to self-monitor? Is one gender truly better at this skill than the other? This is something that could be an easy extension of my research this year, as I could repeat some of my methods, with some slight adjustments like separating my students into

groups prior to data collection by gender, or using smaller data samples with more narrative feedback from the students themselves, to investigate any gender differences.

Since I noticed that some first graders were very consistent with their self-monitoring across themes (Student 9 was usually very accurate across all data sources), while others were more likely to be competitive, overconfident, or egocentric, I was wondering if those students who did struggle with this concept just needed more time to develop these skills. If this study had been longer than six weeks, would some of these students have improved over time? Or, would these students struggle with this skill for years to come? My research question would be, "How can increased feedback and practice benefit some first graders learning to self-monitor?" This research would need to be longer in length and with fewer data sources and a smaller sample, since data collection would be done over a more significant length of time.

One of the largest trends I noticed from my homework data is that there were two central, conflicting philosophies from the households of my students. Some came from homes that supported increasing student responsibility and self-monitoring. Meanwhile, the other half of these families still believed that the student's parents should be the main person tracking their homework progress with little to no participation from the first grader. I noticed from my findings that these attitudes may have influenced the results of my homework data (some students did consistently self-monitor and some did not). So, I would want to investigate, "How do family viewpoints influence first graders' self-monitoring?" By collecting more data on the home-school connection, I would hope that I could learn the impact a student's home life has on his or her ability to self-monitor.

Since these emerging questions all relate to my question of first graders self-monitoring their learning, they would be uncomplicated extensions. To build on the strength of my findings,

data from any of these emerging questions would provide more answers to the untied ends of this research.

f. **CONCLUSION**

Starting with the question influenced by current legislation, "What happens when first graders self-monitor their own learning?" I researched necessary themes that I should know about teaching this skill to my students. I learned that early childhood students would need clear goals and a gradual release of instruction towards independent self-monitoring. Additionally, varying backgrounds, home lives, and personalities would influence students' ability to self-monitor. I collected data about my students' self-monitoring their own content knowledge, homework, and social behaviors over a six week period. Entering this research I had the expectation that my students would not be able to self-monitor in the manner that teachers were expected to include in classroom methods. I anticipated the majority of them to overestimate their understandings and behaviors consistently. From the analysis, I discovered that the majority of first graders can self-monitor their learning with sufficient accuracy. Those students who could not were inconsistent across my three themes, but most exhibited signs of lacking some extent of self-regulation or had ego-centric behaviors. In addition, family perspectives on the extent of first grade responsibility had an effect on student's self-monitoring participation. I was surprised at my students' motivation, honesty, and progress over the course of this experience. My own beliefs and teaching methods were transformed, and my students learned skills that they can use as they go on through their education.

This research, and my students, taught me to not underestimate them and what they can do in the classroom. If students can self-monitor their learning, as this research shows, then I

and other teachers should rise to the occasion and give them the opportunity to try this skill, along with related others. When we open up these opportunities for our students, we may surprise them, and ourselves, with what they can do.

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A) IMPLEMENTATION PLAN

After the countless hours researching and documenting, this work would all be in vain if I had no plan of extending my own teaching or sharing it with others. I intend to use this study in several capacities.

In my own classroom, I plan to try self-monitoring next year with language arts. I would like to try having the students self-assess further aspects of their literacy progress (outside of

reading homework). Since first grade is the most critical year students learn how to read, I would like to have them track their own reading growth and behaviors. When reading, writing, and listening to books independently, I would like the students to assess their behavior choices during that block of time. Since the expectations are very clear for these activities, it would be uncomplicated to incorporate a self-monitoring piece. The students would evaluate if they read the whole time, stayed in one spot, got started right away, etc. on a rubric each day. In addition, next year our new reading series will include the students knowing their reading level to assist in choosing just right books. So, another way I plan to try self-monitoring next year would be students tracking their reading growth on a personal chart with the teacher. Formal research and triangulation of data limited me with what kinds of data I could collect for this research, but now that this study proved its significance, I am interested in trying self-monitoring across subject areas.

Furthermore, there were methods of instruction that came from this research that I plan to continue next year. Since the new reading log format received such positive feedback from families this year than the previous format, I intend to continue using this new one going forward. This is change is something that I will share with my grade level teachers, as we all assign the same reading homework. I would share the results of this portion of my research and explain why I will be modifying it in the future. Additionally, I loved the students using Post-it's to self-monitor their content understandings. It was a great lesson closure, gave the students time to reflect on the lesson, decide how they felt about the content taught, and this routine became part of a bulletin board that I could use interactively all year. While I don't think I would formally match student Post-it's to lesson assessments with the consistency of this research, this method would still be an additional form of evaluation I could use to guide my instruction. Since

this research did prove to be successful, I will be exploring other approaches over the summer for self-monitoring in first grade.

Along with these changes to my classroom, I plan to share my research findings with my grade level teachers during professional learning community (PLC) time. Since they also struggle with how to have their students self-monitor, I would hope that discussing what I found would instigate a positive conversation about what my results mean. We could work together to generate other ideas that we could try next year. Given that these colleagues know and understand the academic knowledge, abilities and home lives of the students of our school, they would be the best teachers to generate other methods of self-monitoring that we know will work for them and us. I think having a conversation about self-monitoring in this matter would benefit not only our students (as all first graders would be focusing on the same skills and expectations in the school); but, it would also help us teachers with our evaluations, since we would all be actively working together to increase self-monitoring in our classrooms.

A majority of my graduate courses have been funded by my district's board of education. Since I just received tenure this past fall, and my district is very small, I had avoided attending board meetings until this point. But now that I have tenure, and a sizable research project, I have already scheduled to present my findings to the board at the public meeting next month. I will already have my poster, handout, and speech completed for my course presentation; consequently, preparing for a board presentation will be effortless. In addition to publically sharing my research with the community present at the meeting, this will be a positive, formal way to introduce myself to the board of education and thank them for their support and funding.

Finally, it has always been a goal of mine to publish a piece of my writing. When I was little, I was always writing about dinosaurs and teaching myself writing conventions beyond my

years so I could write the stories I created and loved. I did have a mixed-up fairy tale copyrighted in middle school and wrote fan-fiction in high school. While I never thought my first published work would be non-fiction, I would not object to the opportunity for this research to be published. The idea of shortening this work is daunting! Nonetheless, it would be all worthwhile if my writing was published. This would feel like such an accomplishment, since I have always loved writing stories with the hope of sharing them with others.

If all of these positive outcomes can come to fruition from my teacher research, then this work would be more than gratifying. I would hope that I could become one of the voices for other teachers to try this type of research in their classrooms. With the current public attitude towards education, the more teachers can do to take back control of our classrooms, the stronger we will become against others dictating our profession and presenting our career in a positive light.

B) SUBJECTIVITY

As with any study that is so personal to your individual methods, beliefs, and biases, this research was influenced by my own subjectivity. Here I will be discussing how this research changed my teaching perspectives, revealed my own preconceived notions and biases, personal obstacles during the research period, the challenging writing process, and what I learned from this experience.

The most significant change I have undergone is looking at my students and my teaching with a different perspective. I have learned to look at teaching through a wider lens. Practicums in college, managing classrooms as a substitute, teaching in my classroom for five years, and conversations with colleagues had already influenced my way of thinking about first graders and some stigmas about what they can and can't do. I had never thought that my first graders were capable of monitoring their learning with various means. Veteran teachers told me that it could not be done, it was a waste of time trying, and students weren't capable of that kind of higher order thinking. Due to their years of experience and their other sage advice and help, I got to the point where I believed them to an extent. This research showed me to disregard those beliefs and not be afraid to try something new that goes against my own personal theories. Sometimes it is worth breaking out of your philosophies and trying something that could yield surprising results.

Additionally, I learned that I looked for patterns in my analysis that confirmed my own biases. I created charts from my data that revealed numbers of occurrences by each student and color coded by gender. I was interested to see if certain types of students (highly academic, special education, etc.) were more capable of self-monitoring than others. I think because I was very academic and focused throughout school, I was hoping to find student with opposing personalities to mine would struggle with this skill the most. At times this was confirmed in my findings. Other times, it was not. I also anticipated one gender to be better at self-monitoring than another from my past teaching experiences. So, I made gender an area of focus in my analysis. Furthermore, I noted negative behaviors during centers more often from the students I expected would exhibit them. If another educator took notes on my students, I am sure their notes would be more unbiased and depict a more nondiscriminatory picture of my classroom and my students' self-monitoring skills.

I entered this research with the pre-conceived notion that it was necessary to find a groundbreaking answer to my question. However, once in the process of data collection (which I realized was imperfect on many levels), I quickly learned this would not be the case. I was limited by so many extenuating factors that I would not have any astounding results. Once I had accepted this, the stress was relieved from my own self-created expectations, and I could simply enjoy the experience for what it was.

The old adage, "When it rains, it pours," definitely ran true during this research process. During data collection portion, I was working a second job as Slope Security at Shawnee Mountain one weekend day and one midweek night all season. While I was aware I would be working this job during the first portion of the research, there were so many unexpected events throughout this process that were not planned prior to beginning this course! In December, just weeks before data collection started, my boyfriend and I signed a lease on a home for rent and planned to move in together. My boyfriend moved in during the first month of data collection, and I was expected to move in the midst of the writing process. A lot of painting and cleaning was needed in the house when my boyfriend moved, which made the balance of research, house work, skiing, and my own packing to move difficult. Then, less than two weeks before my own move, I found out that I had stage 1 melanoma on my calf. Since I do not tan and have never severely burnt my skin, this was a shock. But, the spot had been unusual and changing in appearance over the last few months. The procedure to remove the spot was unexpectedly bumped up from a few days after my scheduled move, to 48 hours after diagnosis due to a snow day and availability. The location of the spot made walking difficult for over a week after the surgery (I missed several days of school), and the scar was almost six inches in length. So, my family and boyfriend had to pack and move the majority of my belongings since the procedure

happened before I could move most of my belongings. At the same time, another precancerous condition I had been monitoring reappeared, and my boyfriend came down with shingles due to all of the stress. Priorities got shifted away from teaching and my research and toward doctor visits in New York City and recovering. By the time the dust settled, I was behind in my writing and data analysis and had to take time to review on my data because it had been such a long recess from my work. Luckily, I have a good bill of health, am healing nicely, and am all settled into my new home. I am fortunate that I do not have a family to care for. That freedom allowed me to find time to catch up on my writing for the last month of this research. While I am naturally a procrastinator, these events compounded my own weaknesses. But, in the end I was fortunate these experiences occurred in the middle of this process and not at the beginning during data collection, or at the end right before the research was due.

When I finally had the time to experience this writing process, I learned the time that it takes to analyze everything, determine possible explanations and answers, and to type was extensive. Fortunately, writing does come naturally to me, and I am verbose to a fault. In the past, I had experiences with data analysis and literature research that were challenging for me. Nonetheless, teacher research is more narrative and personal than other types of research I have done. If I had had the ability to spread out this process over a longer length of time, I don't think I would have felt so overwhelmed at the end of this journey. I learned a lot about my own perseverance, work ethic, and critical thinking skills from this research during a challenging time in my personal life.

As a teacher, I learned to look at things much deeper. After teaching and working for a few years, I had started to take occurrences for their surface value and not consider other possibilities or connections. This research has shown me the importance of occasionally delving

deeper into existing tensions or questions to examine them more closely for a better-rounded, clearer answer. In addition, I learned that there are ways to substantiate findings and experiences that occur in my classroom. This research taught me methods of validating my teaching experiences, which was very empowering.

As long as there are no serious extenuating circumstances, I would say that teacher research is worth the journey for an educator. You learn a lot about your teaching, your students, and your perspectives. Data collection does not necessarily mean more work on the teacher, as it is an extension of existing tensions. But, finding the time to analyze, reflect, and write is challenging. It takes a special teacher to find the motivation to formally report his or her findings to others, but the effort is so rewarding that I would recommend it to any colleague.

C) Actual Documents

Miss Elana Farruggio
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Dear Parents,

I will soon begin conducting graduate research in our classroom on how first graders self-monitor their learning and self-assess both inside and outside of school. I would love for you and your child to be involved in this research. While I am in the very early stages of my research, I will start collecting student work and possibly recording and videotaping lessons for documentation and later reflection. I may ask you, the parents, to be a part of my research as well.

At this point, I do not know what I will include in my final report, which will be completed this spring. My classmates (other New Jersey teachers) and professors at The College of New Jersey will be the only ones to view any student work, photographs, or other data collection (only transcripts of audio or video would be included). I will not be including any personal or identifiable information about your child, such as names and faces in photographs.

Please know that whether or not your child participates in my study, his/her grade will not be affected nor will the amount of attention your child receives change. Your child will still participate and experience the same instruction as the other students regardless. His/her performance just won't be included in my observations and findings.

If you are still concerned, please complete and return the bottom of this form to me, or email me with any further questions. I hope that you will agree to include your child in my research as I am excited to see if he/she can rise to this challenge, which is a popular trend in education. Thank you for all of your support.

Sincerely,
Miss Farruggio
farruggio.kara@byramschools.org

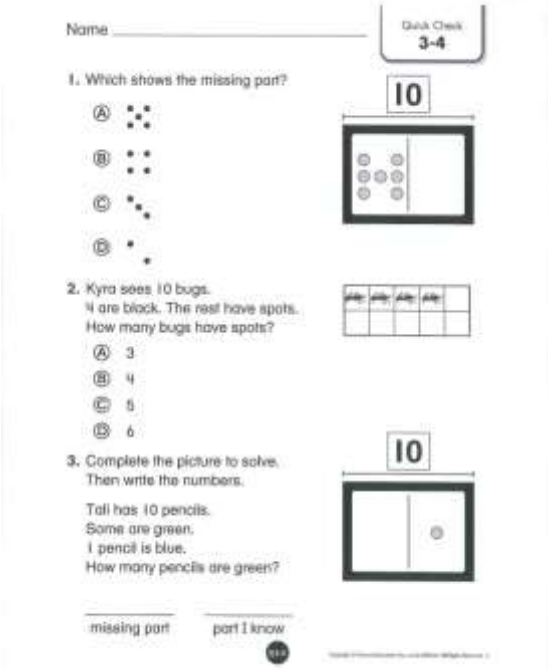
If you wish not to participate:

I do not grant permission for my child, _____, to have his/her work or photographs published for this research.

Date: _____

Parent's name: _____

Parent's signature: _____



Name _____ Quick Check 3-4

1. Which shows the missing part?

Ⓐ ⁘
Ⓑ ⁚
Ⓒ ⁖
Ⓓ ⁙

10

2. Kyra sees 10 bugs.
4 are black. The rest have spots.
How many bugs have spots?

Ⓐ 3
Ⓑ 4
Ⓒ 5
Ⓓ 6

3. Complete the picture to solve.
Then write the numbers.

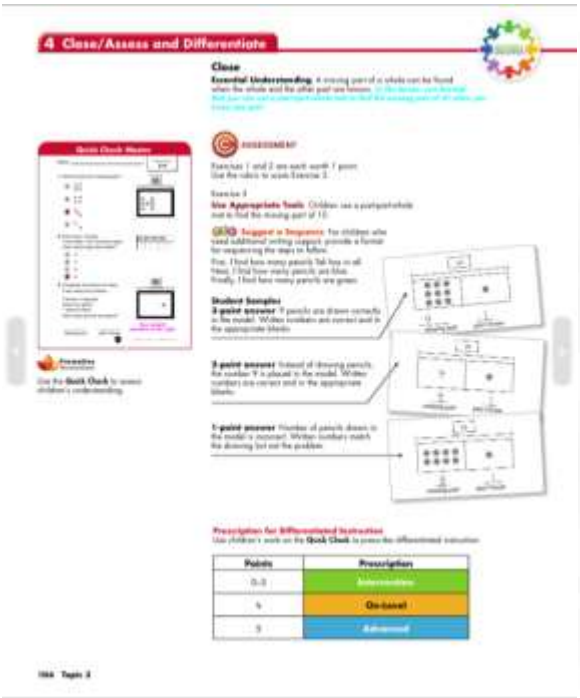
Tali has 10 pencils.
Some are green.
1 pencil is blue.
How many pencils are green?

10

_____ missing part

_____ part I know

Figure 2: Example of math Quick Check assessment



4 Close/Assess and Differentiate

Close

Essential Understanding. A missing part of a whole can be found when the whole and the other part are known.

Quick Check Master

ASSESSMENT

Exercises 1 and 2 are each worth 1 point. Use the rubric to score Exercise 3.

Exercise 3

Use Appropriate Tools Children use a part-part-whole mat to find the missing part of 10.

AIM Support or Improve For children who need additional writing support, provide a format for sequencing the steps to follow.

First, I find how many pencils Tali has in all. Next, I find how many pencils are blue. Finally, I find how many pencils are green.

Student Samples

3-point answer 9 pencils are drawn correctly in the model. Written numbers are correct and in the appropriate blanks.

2-point answer Instead of drawing pencils, the number 9 is placed in the model. Written numbers are correct and in the appropriate blanks.

1-point answer Number of pencils drawn in the model is incorrect. Written numbers match the drawing but not the problem.

Prescription for Differentiated Instruction
Use children's work on the Quick Check to prescribe differentiated instruction.

Points	Prescription
0–2	Intervention
3	On-Level
4	Advanced

Figure 3: Example of math Quick Check scoring

Name _____ Due Date _____

Reading Log

Each week you should read for **100 minutes total**. For the months of January and February, you will choose when, and for how long, you want to read every day each week. All of your reading minutes should add up to at least 100.

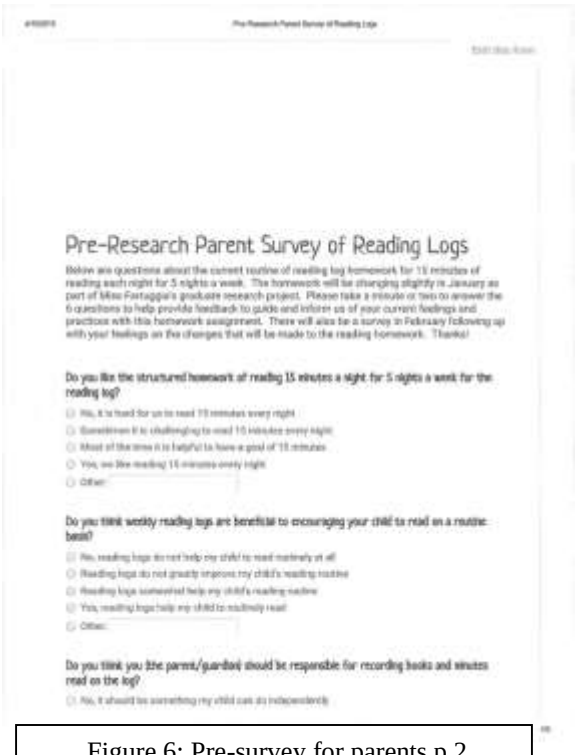
Please encourage your child to record and keep track of the 100 minute goal as much as he/she can. Happy reading!

Date	Book(s)	☺☺☺	Minutes Read

Total Minutes: _____

Parent Signature: _____

Figure 4: Reading log



Pre-Research Parent Survey of Reading Logs

Below are questions about the current routine of reading log homework for 15 minutes of reading each night for 5 nights a week. The homework will be changing slightly in January as part of Mike Farruggia's graduate research project. Please take a minute or two to answer the 6 questions to help provide feedback to guide and inform us of your current feelings and practices with this homework assignment. There will also be a survey in February following up with your feelings on the changes that will be made to the reading homework. Thanks!

Do you like the structured homework of reading 15 minutes a night for 5 nights a week for the reading log?

- No, it is hard for us to read 15 minutes every night
- Sometimes it is challenging to read 15 minutes every night
- Most of the time it is helpful to have a goal of 15 minutes
- Yes, we like reading 15 minutes every night
- Other:

Do you think weekly reading logs are beneficial to encouraging your child to read on a routine basis?

- No, reading logs do not help my child to read routinely at all
- Reading logs do not greatly improve my child's reading routine
- Reading logs somewhat help my child's reading routine
- Yes, reading logs help my child to routinely read
- Other:

Do you think you (the parent/guardian) should be responsible for recording books and minutes read on the log?

- No, it should be something my child can do independently

Do you think your child is capable of recording and tracking his/her own minutes read on the reading log?

- No, not at all independently
- Not without a lot of my help
- Mostly, with only a little of my help
- Yes, without any of my help
- Other:

Do you think being given a total number of reading minutes a week would be easier to accomplish rather than the current assigned 15 minutes each day?

- No, we like the structure of a daily reading goal
- My child might have trouble with the flexibility of just a total for the week
- Choosing for how long to read each day for a weekly total might work better for our schedule
- Yes, just a weekly total would work better for our schedule
- Other:

How honest is your family with minutes read on reading logs?

- We are not honest on reading logs
- Most weeks we have not been honest
- Most of the time we are honest
- We are honest on all reading logs
- Other:

You may include any other comments about the current reading log homework assignment here. Suggestions are also welcome.

p.1

Figure 6: Pre-survey for parents p.2

Post Research Parent Survey of Reading Logs

Below are questions about the changes to the reading log homework from 15 minutes a night 5 times a week to 100 minutes total at the end of the week. While the increase in total number of minutes is a continued practice in first grade, the opportunity to choose when those minutes are read throughout the week is new practice. Please take a minute or two to answer the handful of questions below to help provide feedback of this change in flexibility for tracking the reading minutes. This survey will be compared to the results of the one in December, but you did not have to participate in that survey in order to answer this one. Feedback from this survey will determine the type of reading log homework assigned for the remainder of the school year. Thanks!

Did you like the flexibility of reading only a total of 100 minutes per week?
(compared to 15 minutes a night for 5 nights a week)

- No, it is hard for us to develop our own reading schedule
- It was challenging to decide when and for how long to read, but we managed
- We liked trying out choosing our own reading schedule
- Yes, we definitely liked this more flexible reading assignment compared to the old way

Do you think the flexibility of choosing when and for how long to read increased motivation from your child to read?

- No, I saw no change in motivation to read due to changes in the assignment
- This change to the reading log did not drastically change my child's reading motivation
- The new flexibility with the reading log helped to increase my child's motivation to read
- Yes, this type of reading log greatly improved my child's reading motivation

Do you think you (the parent/guardian) should be responsible for recording and tracking books and minutes read on the new reading log?

- No, it should be something my child can do independently
- Sometimes my child may need my help, but he/she should be able to do most of the reading log on

Do you think your child is capable of writing and tracking his/her reading minutes for the week independently?

- No, I had to do all of the writing and tracking of total minutes
- My child tried to record his/her reading minutes, but it was too difficult for him/her to do without my help
- My child could write and track his/her reading minutes with little support
- Yes, my child loved being responsible for writing and tracking his/her reading minutes

Would you rather go back to reading for a set number minutes a night (would be 20) for 5 nights a week?

- No, this more flexible reading log worked much better for my child and our family
- We would rather keep reading logs this new way, but we would not object to going back to the more structured reading homework
- My child and family liked trying to read this way, but we would rather go back to a set number of minutes a night
- Yes, we would like to go back to the old way of a set number of minutes per night

How honest is your family with minutes read on the new reading logs?

- We are not honest on reading logs
- Most weeks we have not been honest
- Most of the time we are honest
- We are honest on all reading logs

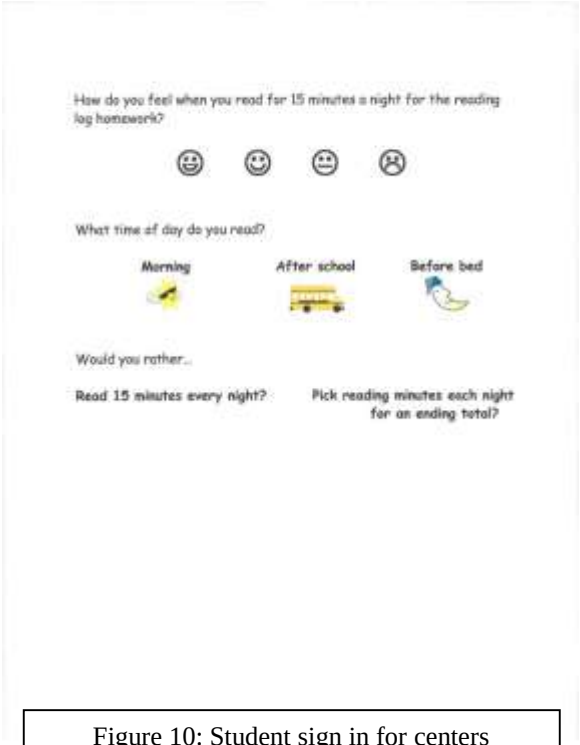
You may include any other comments about the changes to the reading log homework assignment here. Suggestions are also welcome.

Submit

Never submit passwords through Google Forms.

nts p.1

Figure 8: Post survey for parents p.2



How do you feel when you read for 15 minutes a night for the reading log homework?

What time of day do you read?

Morning | After school | Before bed

Would you rather...

Read 15 minutes every night? | Pick reading minutes each night for an ending total?

1

2

ading logs

Figure 10: Student sign in for centers

Name _____

Math Center Rubric

1	Did you understand what to do at the centers?	☹	😐	☺	☺
2	How did the centers make you feel?	☹	😐	☺	☺
3	Did you challenge yourself at the centers?	☹	😐	☺	☺
4	Did you pick centers that were good for you?	☹	😐	☺	☺
5	Did you make the best choices at your centers?	☹	😐	☺	☺

navior

Figure 12: Student interview for centers

What did you not like about this?

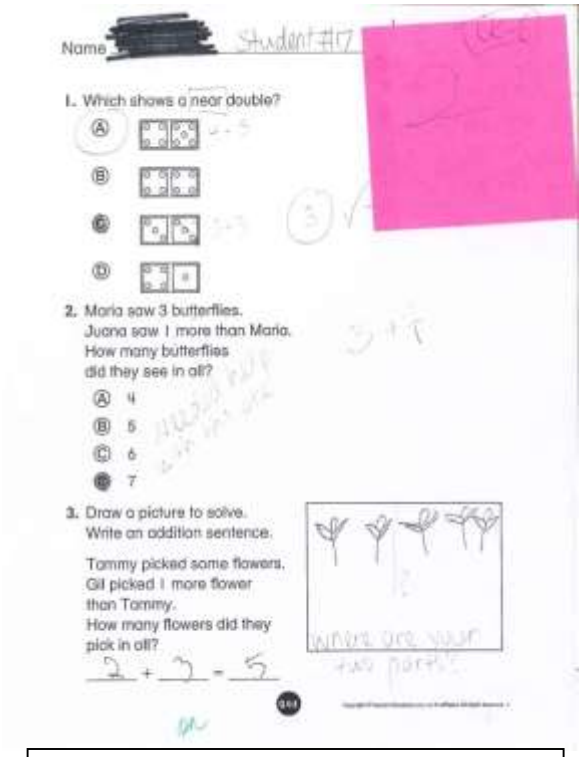
Would you rather rotate to all of the centers in a row with no choice, or choose one or two stations on your own?

Which way do you think helps you learn more about math?

How did you decide which math centers to visit and which ones to not visit?

Was choosing a math center to go to was easy or hard to do?

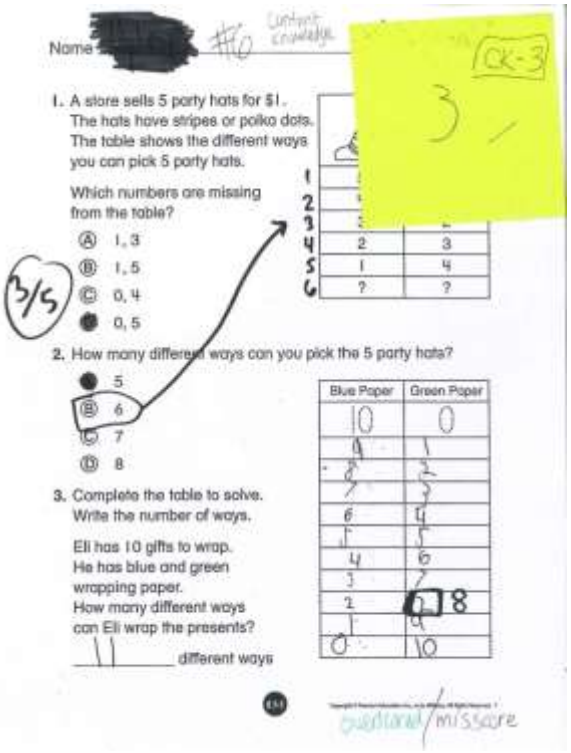
What made it easy/hard?


Name [redacted] Student #17

1. Which shows a near double?
   Ⓐ Ⓑ Ⓒ Ⓓ

2. Maria saw 3 butterflies.
   Juana saw 1 more than Maria.
   How many butterflies did they see in all?
   Ⓐ 4
   Ⓑ 5
   Ⓒ 6
   ● 7

3. Draw a picture to solve.
   Write an addition sentence.
   Tammy picked some flowers.
   Gil picked 1 more flower than Tammy.
   How many flowers did they pick in all?
   2 + 3 = 5


Name [redacted] #10 Content knowledge

1. A store sells 5 party hats for $1.
   The hats have stripes or polka dots.
   The table shows the different ways you can pick 5 party hats.
   Which numbers are missing from the table?
   Ⓐ 1, 3
   Ⓑ 1, 5
   Ⓒ 0, 4
   ● 0, 5

1		
2		
3		
4	2	3
5	1	4
6	?	?

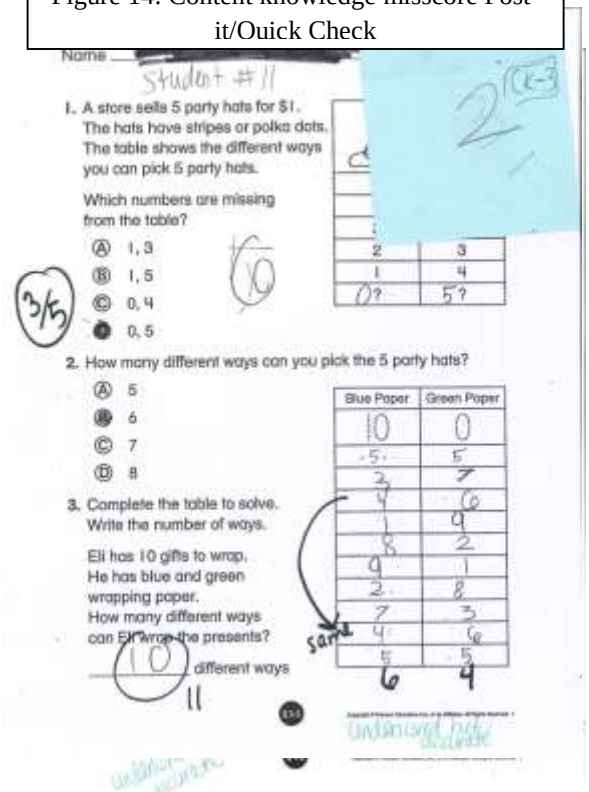
2. How many different ways can you pick the 5 party hats?
   ● 5
   Ⓑ 6
   Ⓒ 7
   Ⓓ 8

3. Complete the table to solve.
   Write the number of ways.
   Eli has 10 gifts to wrap.
   He has blue and green wrapping paper.
   How many different ways can Eli wrap the presents?
   11 different ways

Blue Paper	Green Paper
10	0
9	1
8	2
7	3
6	4
5	5
4	6
3	7
2	8
1	9
0	10

ccurate Post-

Figure 14: Content knowledge misscore Post-it/Ouick Check


Name [redacted] Student #11

1. A store sells 5 party hats for $1.
   The hats have stripes or polka dots.
   The table shows the different ways you can pick 5 party hats.
   Which numbers are missing from the table?
   Ⓐ 1, 3
   Ⓑ 1, 5
   Ⓒ 0, 4
   ● 0, 5

2	3
1	4
0?	5?

2. How many different ways can you pick the 5 party hats?
   Ⓐ 5
   ● 6
   Ⓒ 7
   Ⓓ 8

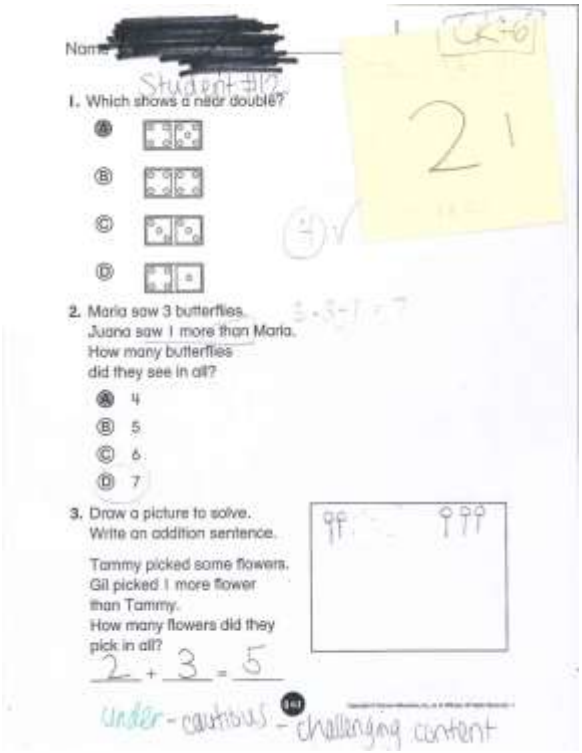
3. Complete the table to solve.
   Write the number of ways.
   Eli has 10 gifts to wrap.
   He has blue and green wrapping paper.
   How many different ways can Eli wrap the presents?
   10 different ways

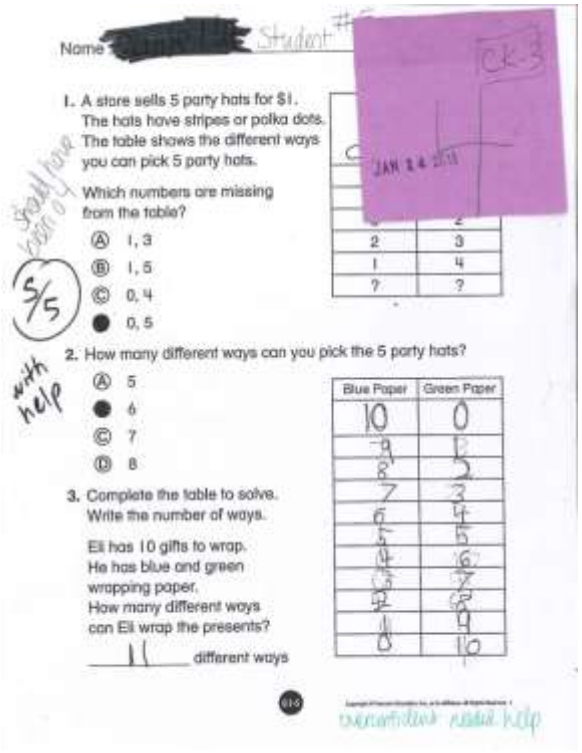
Blue Paper	Green Paper
10	0
9	1
8	2
7	3
6	4
5	5

same

nderscore but heck

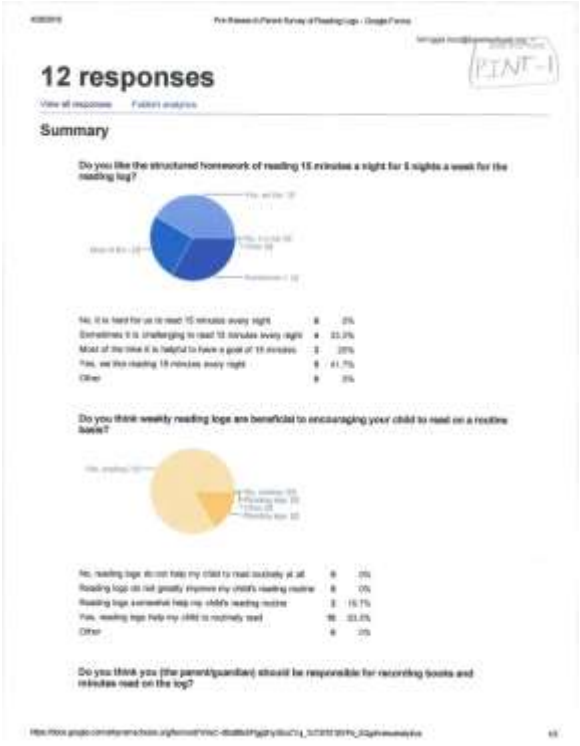
Figure 16: Content knowledge underscore Post-it/Ouick Check





underscore
ost-it/Quick

Figure 18: Content knowledge overconfident Post-it/Quick Check



12 responses

Summary

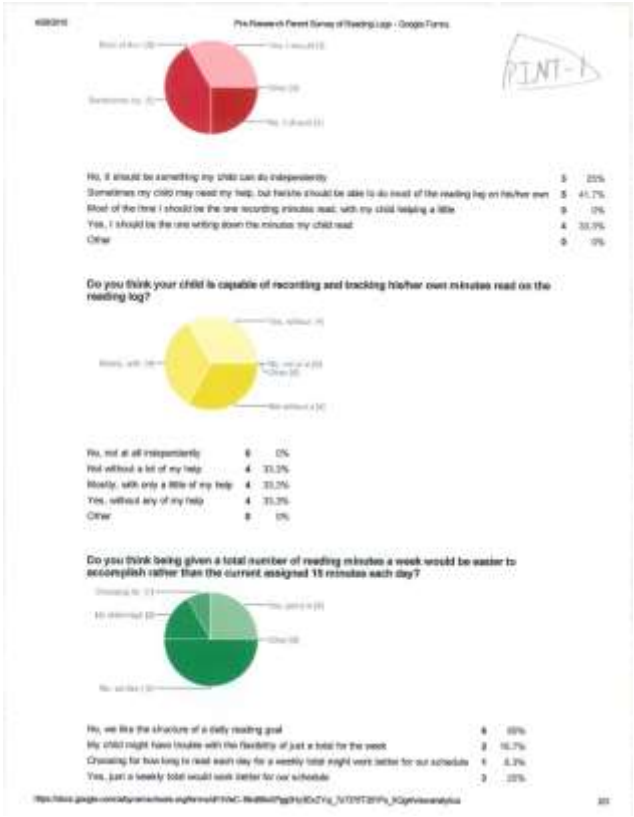
Do you like the structured homework of reading 15 minutes a night for 5 nights a week for the reading log?

No, it is hard for us to read 15 minutes every night	0	0%
Sometimes it is challenging to read 15 minutes every night	4	33.3%
Most of the time it is helpful to have a goal of 15 minutes	3	25%
Yes, we like reading 15 minutes every night	5	41.7%
Other	0	0%

Do you think weekly reading logs are beneficial to encouraging your child to read on a routine basis?

No, reading logs do not help my child to read routinely at all	0	0%
Reading logs do not greatly improve my child's reading routine	0	0%
Reading logs somewhat help my child's reading routine	2	16.7%
Yes, reading logs help my child to routinely read	10	83.3%
Other	0	0%

Do you think you (the parent/guardian) should be responsible for recording books and minutes read on the log?



No, it should be something my child can do independently	3	25%
Sometimes my child may need my help, but he/she should be able to do most of the reading log on his/her own	5	41.7%
Most of the time I should be the one recording minutes read, with my child helping a little	0	0%
Yes, I should be the one writing down the minutes my child read	4	33.3%
Other	0	0%

Do you think your child is capable of recording and tracking his/her own minutes read on the reading log?

No, not at all independently	0	0%
Not without a lot of my help	4	33.3%
Mostly, with only a little of my help	4	33.3%
Yes, without any of my help	4	33.3%
Other	0	0%

Do you think being given a total number of reading minutes a week would be easier to accomplish rather than the current assigned 15 minutes each day?

No, we like the structure of a daily reading goal	8	66%
My child might have trouble with the flexibility of just a total for the week	2	16.7%
Choosing for how long to read each day for a weekly total might work better for our schedule	1	8.3%
Yes, just a weekly total would work better for our schedule	3	25%

esults p.1

Figure 20: Pre-Survey parent results p.2

How honest is your family with minutes read on reading logs?

We are not honest on reading logs	0	0%
Most weeks we have not been honest	0	0%
Most of the time we are honest	2	16.7%
We are honest on all reading logs	10	83.3%
Other	0	0%

You may include any other comments about the current reading log homework assignment here. Suggestions are also welcome.

I think the school should provide a series of stories each week that correspond to the proper reading level of each student. It is difficult to find books that are on the level of the child without spending hundreds of dollars on new books. There should be at least some textbook whether eBook or physical book that children can access hundreds of stories in one easy area.

My child struggles with drawing a favorite picture within his book. Our family is not crazy about that portion of the reading/log assignment.

Our household has a daily routine with the reading logs in place now. We look forward to our daily reading.

Number of daily responses

sults p.3

Timestamp	Do you like the structured	Do you think weekly readi	Do you think you (the pare
12/18/2014 13:04:46	Sometimes it is challengin	Reading logs somewhat h	No, it should be something
12/18/2014 13:37:57	Most of the time it is helpfi	Yes, reading logs help my	Sometimes my child may r
12/19/2014 17:55:15	Most of the time it is helpfi	Yes, reading logs help my	Sometimes my child may r
12/19/2014 21:09:34	Yes, we like reading 15 mi	Yes, reading logs help my	Sometimes my child may r
12/19/2014 9:50:27	Yes, we like reading 15 mi	Yes, reading logs help my	No, it should be something
12/19/2014 12:27:33	Sometimes it is challengin	Yes, reading logs help my	Yes, I should be the one w
12/19/2014 14:23:15	Yes, we like reading 15 mi	Yes, reading logs help my	No, it should be something
12/20/2014 22:56:39	Yes, we like reading 15 mi	Yes, reading logs help my	Yes, I should be the one w
12/22/2014 10:23:49	Yes, we like reading 15 mi	Yes, reading logs help my	Sometimes my child may r
12/22/2014 10:55:12	Sometimes it is challengin	Yes, reading logs help my	Yes, I should be the one w
12/22/2014 22:12:19	Most of the time it is helpfi	Yes, reading logs help my	Yes, I should be the one w
12/24/2014 15:57:37	Sometimes it is challengin	Reading logs somewhat h	Sometimes my child may r

Do you think your child is c	Do you think being given a How honest is your family You may include any other
Yes, without any of my hel	Yes, just a weekly total wo Most of the time we are honest
Mostly, with only a little of	My child might have trouble We are honest on all reading logs
Yes, without any of my hel	Choosing for how long to r We are honest on all reading logs
Mostly, with only a little of	No, we like the structure of We are honest on all reading logs
Mostly, with only a little of	No, we like the structure of We are honest on all readi I think the school should pr
Not without a lot of my hel	No, we like the structure of We are honest on all reading logs
Yes, without any of my hel	No, we like the structure of We are honest on all reading logs
Mostly, with only a little of	No, we like the structure of We are honest on all reading logs
Not without a lot of my hel	No, we like the structure of We are honest on all reading logs
Not without a lot of my hel	Yes, just a weekly total wo We are honest on all readi My child struggles with doi
Not without a lot of my hel	My child might have trouble Most of the time we are ho Our household has a daily
Yes, without any of my hel	Yes, just a weekly total wo We are honest on all reading logs

sults p.4

Figure 23: Pre-Survey parent results p.5

esults p.1

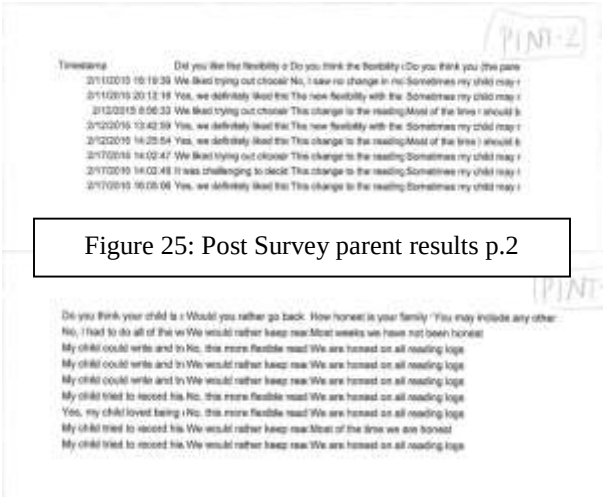
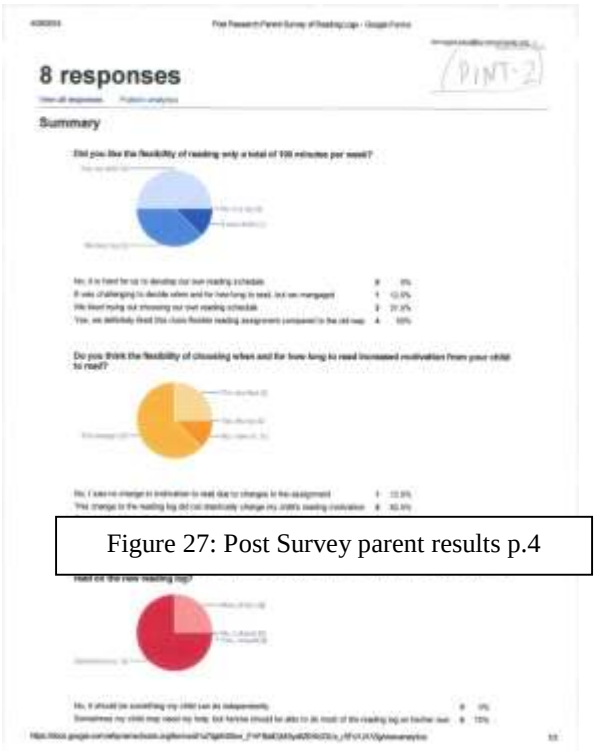
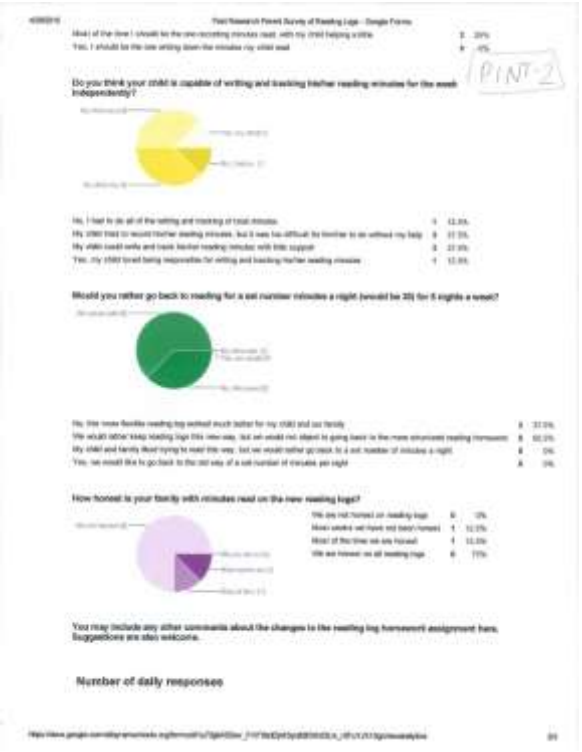


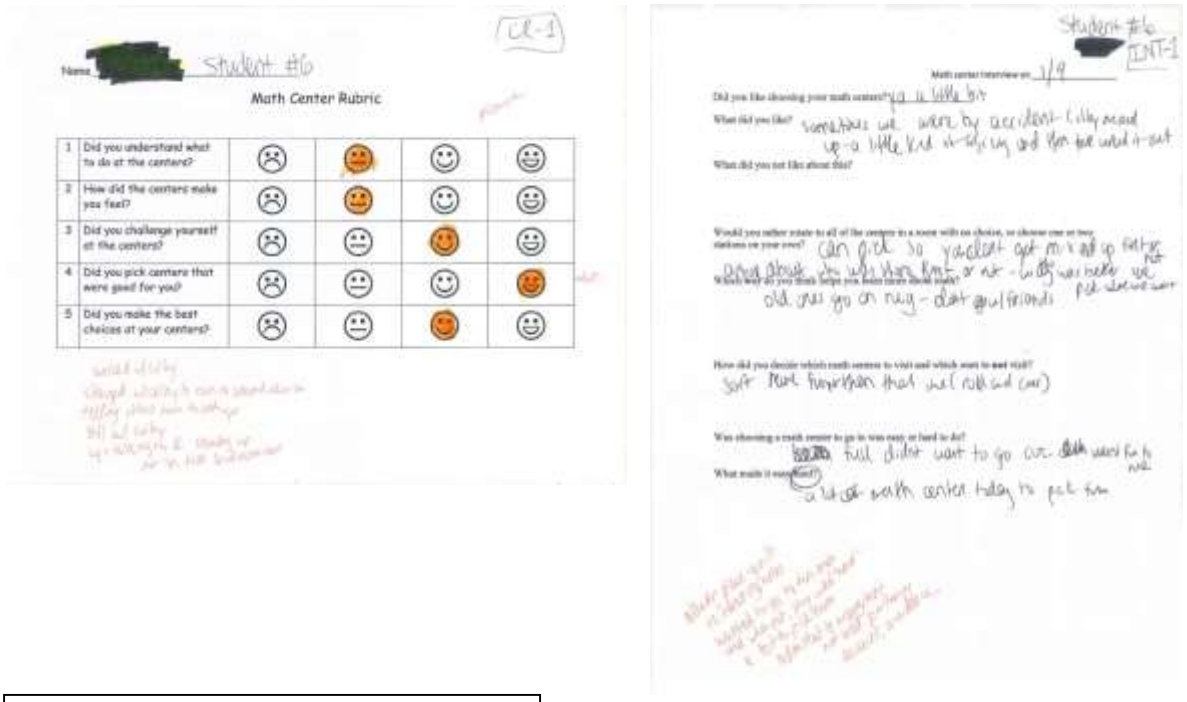
Figure 25: Post Survey parent results p.2



lts p.3

Figure 27: Post Survey parent results p.4





Name [redacted] Student #6

Math Center Rubric

1	Did you understand what to do at the centers?	☹	😐	☺	😀
2	How did the centers make you feel?	☹	😐	☺	😀
3	Did you challenge yourself at the centers?	☹	😐	☺	😀
4	Did you pick centers that were good for you?	☹	😐	☺	😀
5	Did you make the best choices at your centers?	☹	😐	☺	😀

Student #6

Math center interview on 1/9

Did you like choosing your math centers? yes a little bit

What did you like? sometimes we were by accident (like around up a little kid in [illegible] and then he would [illegible]

What did you not like about this?

Would you rather rotate to all of the centers in a room with no choice, or choose one or two stations on your own? can pick so you don't get stuck in [illegible] or not - [illegible] we need to do all [illegible] get mixed up

Which way do you think helps you learn more about math? old one go on rug - don't get friends

How did you decide which math centers to visit and which ones to not visit? [illegible] first then [illegible]

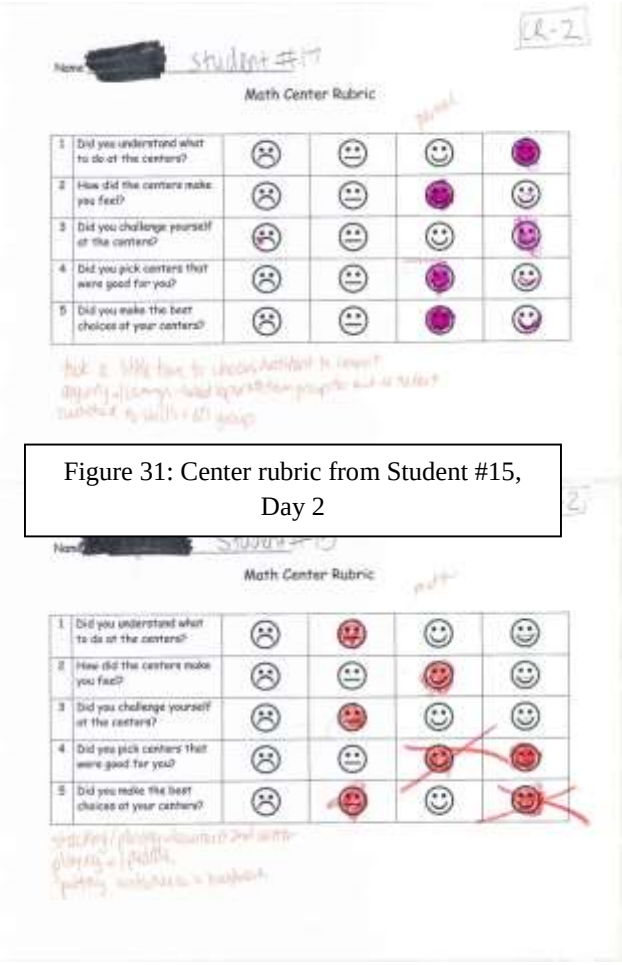
Was choosing a math center to go to was easy or hard to do? [illegible] I just didn't want to go on [illegible]

What made it easy/hard? I like math center today to get fun

udent #6,

Figure 29: Interview from Student #6, Day 1

dent #17,


Name [redacted] Student #17

CR-2

Math Center Rubric

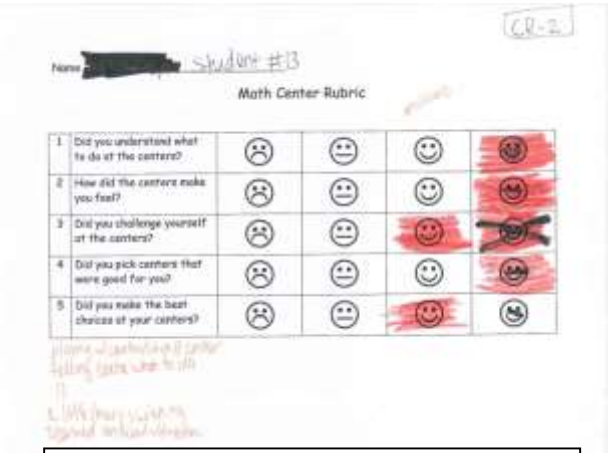
1	Did you understand what to do at the centers?	☹	😐	☺	
2	How did the centers make you feel?	☹	😐		☺
3	Did you challenge yourself at the centers?	☹	😐	☺	
4	Did you pick centers that were good for you?	☹	😐		☺
5	Did you make the best choices at your centers?	☹	😐		☺

Figure 31: Center rubric from Student #15, Day 2

Name [redacted]

Math Center Rubric

1	Did you understand what to do at the centers?	☹		☺	☺
2	How did the centers make you feel?	☹	😐		☺
3	Did you challenge yourself at the centers?	☹		☺	☺
4	Did you pick centers that were good for you?	☹	😐		
5	Did you make the best choices at your centers?	☹		☺	

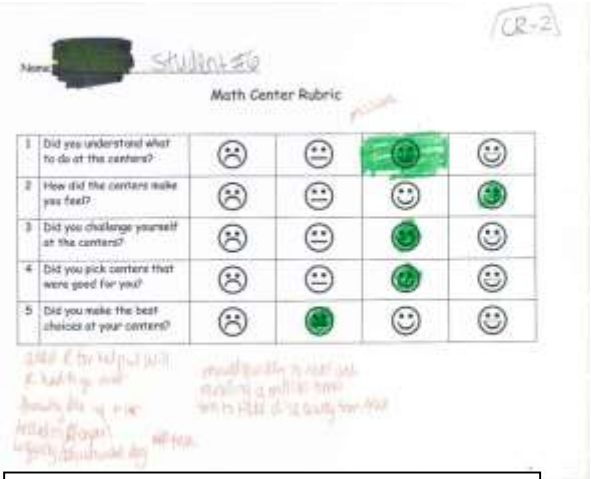

CR-2

Name [redacted] Student #13

Math Center Rubric

1	Did you understand what to do at the centers?	☹	😐	☺	
2	How did the centers make you feel?	☹	😐	☺	
3	Did you challenge yourself at the centers?	☹	😐		
4	Did you pick centers that were good for you?	☹	😐	☺	
5	Did you make the best choices at your centers?	☹	😐		

Figure 32: Center rubric from Student #13, Day 2


CR-2

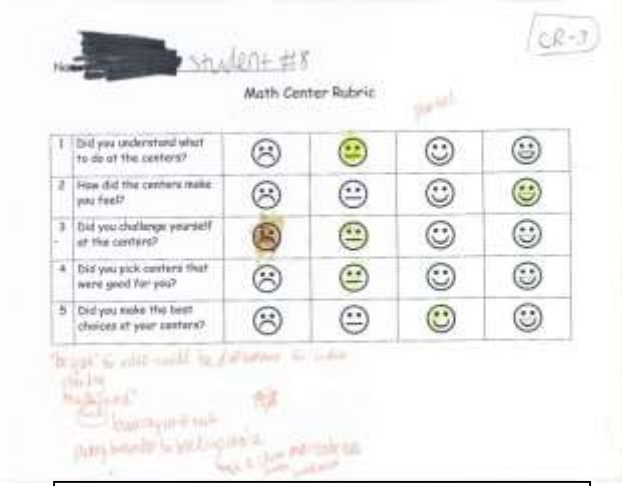
Name [redacted] Student #6

Math Center Rubric

1	Did you understand what to do at the centers?	☹	😐		☺
2	How did the centers make you feel?	☹	😐	☺	
3	Did you challenge yourself at the centers?	☹	😐		☺
4	Did you pick centers that were good for you?	☹	😐		☺
5	Did you make the best choices at your centers?	☹		☺	☺

Figure 33: Center rubric from Student #6, Day 2

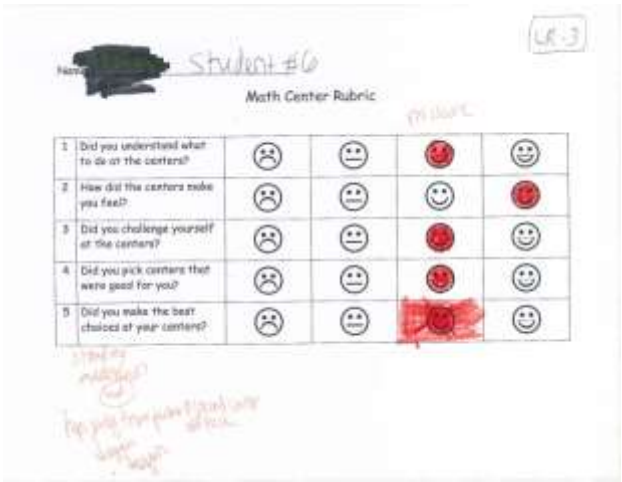
Figure 34: Interview from Student #12, Day 2


Name [redacted] Student #8

Math Center Rubric

CR-1

1	Did you understand what to do at the centers?	☹	🙂	☺	☺
2	How did the centers make you feel?	☹	😐	☺	☺
3	Did you challenge yourself at the centers?	☹	😐	☺	☺
4	Did you pick centers that were good for you?	☹	😐	☺	☺
5	Did you make the best choices at your centers?	☹	😐	☺	☺


Name [redacted] Student #6

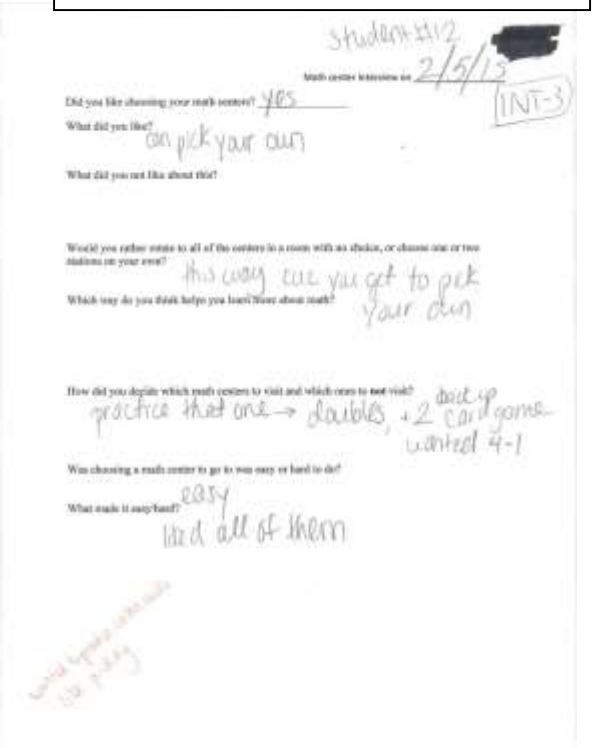
Math Center Rubric

CR-3

1	Did you understand what to do at the centers?	☹	😐	☹	☺
2	How did the centers make you feel?	☹	😐	☺	☹
3	Did you challenge yourself at the centers?	☹	😐	☹	☺
4	Did you pick centers that were good for you?	☹	😐	☹	☺
5	Did you make the best choices at your centers?	☹	😐	☹	☺

ent #8,

Figure 36: Center rubric from Student #6, Day 3


Student #12 [redacted]

Math center interview on 2/5/13

INT-3

Did you like choosing your math centers? yes

What did you like? can pick your own

What did you not like about this?

Would you rather rotate to all of the centers in a room with no choice, or choose one or two stations on your own? this way cuz you get to pick your own

Which way do you think helps you learn/know about math?

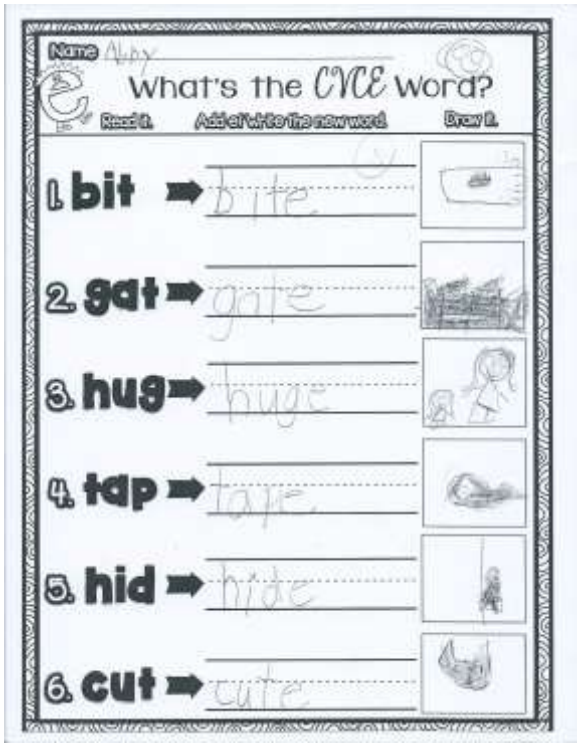
How did you decide which math centers to visit and which ones to not visit? practice that one → doubles, + 2 card game wanted 4-1

Was choosing a math center to go to was easy or hard to do?

What made it easy/hard? easy liked all of them

2, Day 3

Figure 39: Other findings: self-assess independent work



f-assess

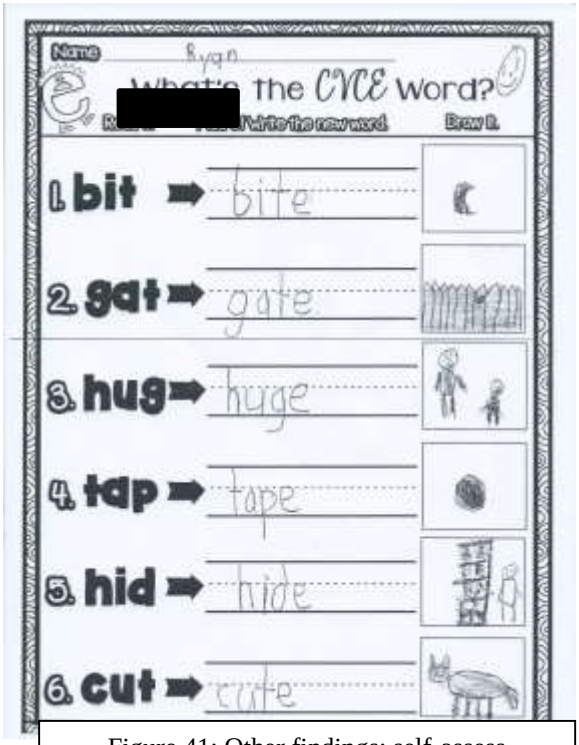
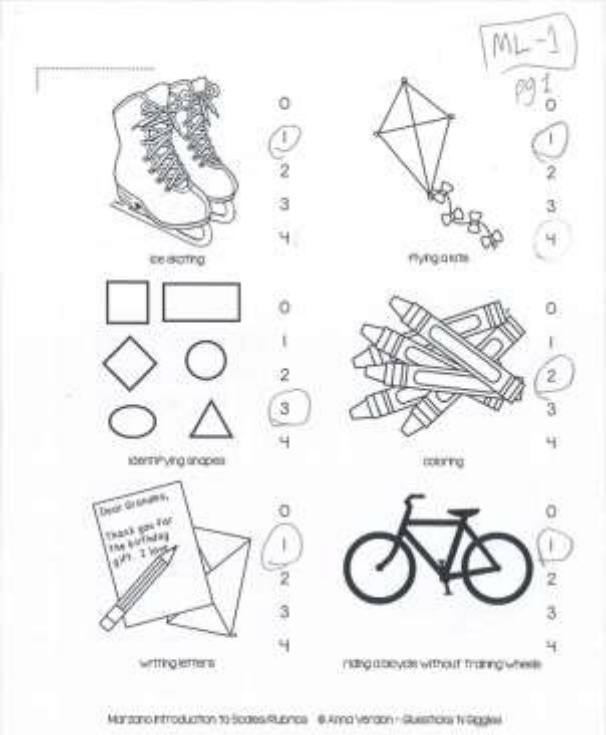


Figure 41: Other findings: self-assess independent work

f-assess



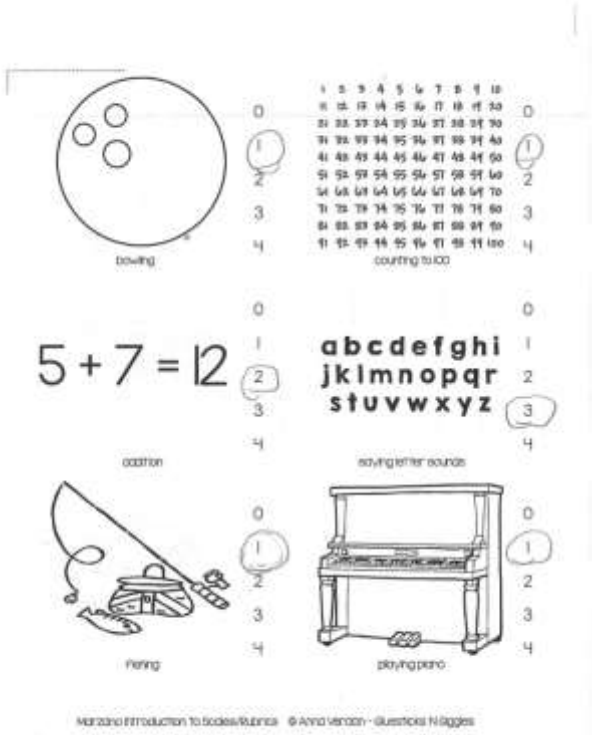


Figure 43: Student's self-assessment activity from a mini lesson p.2

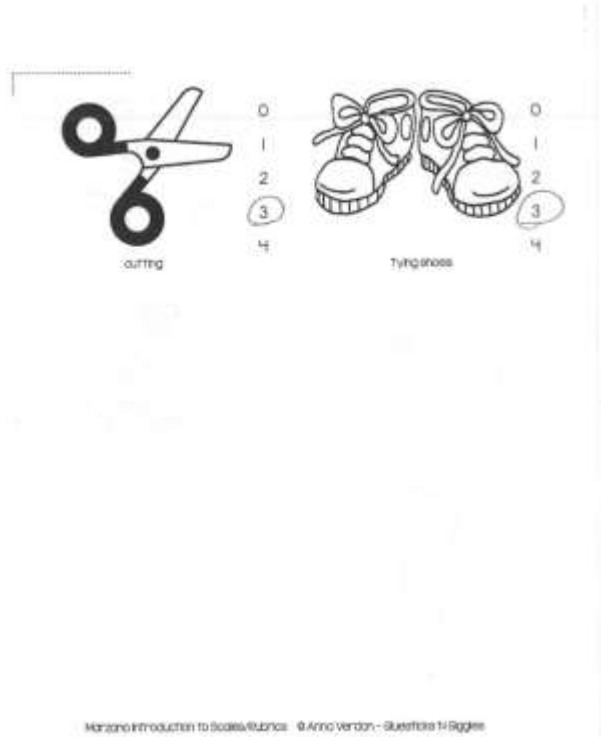


Figure 45: Student's self-assessment activity from a mini lesson p.4

D) Original Notes

ysis chart

Figure 2: Homework analysis chart

Figure 3: Social behavior/Centers analysis

Figure 4: Reflective analysis chart p.1

Figure 5: Reflective analysis chart p.2

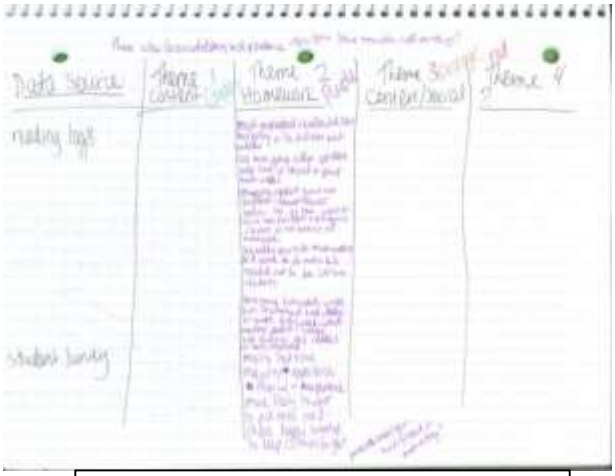
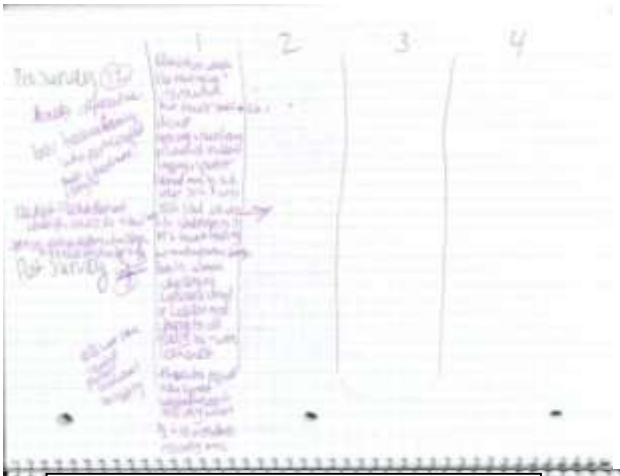
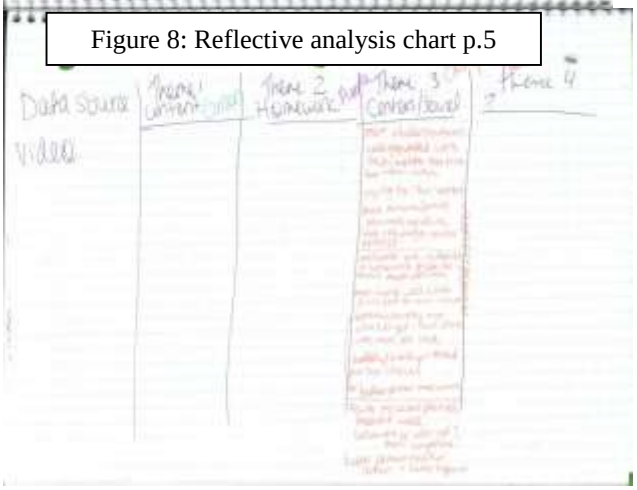


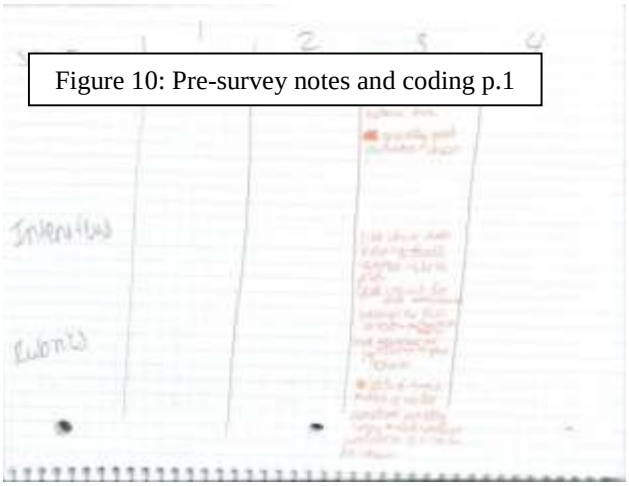
Figure 6: Reflective analysis chart p.3



rt p.4

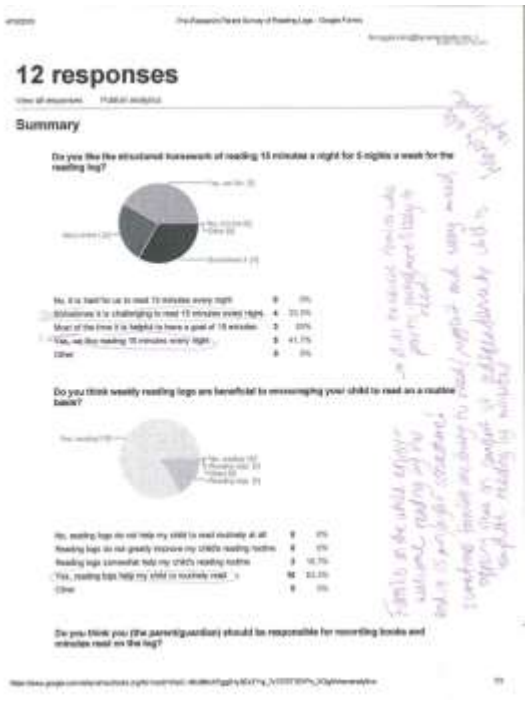
Figure 8: Reflective analysis chart p.5





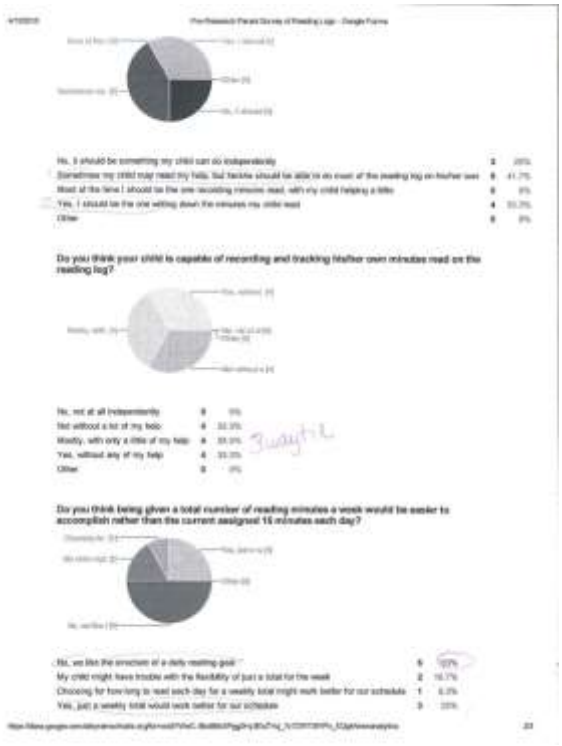
art p.6

Figure 10: Pre-survey notes and coding p.1



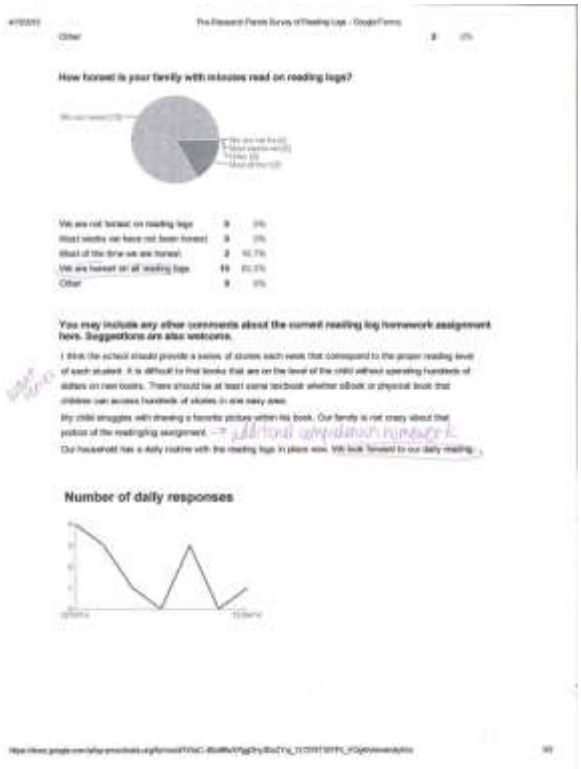
12 responses

Summary



Do you think your child is capable of recording and tracking his/her own minutes read on the reading log?

Do you think being given a total number of reading minutes a week would be easier to accomplish rather than the current assigned 15 minutes each day?



How honest is your family with minutes read on reading logs?

You may include any other comments about the current reading log homework assignment here. Suggestions are also welcome.

Number of daily responses

l coding p.2

Figure 12: Pre-survey notes and coding p.3

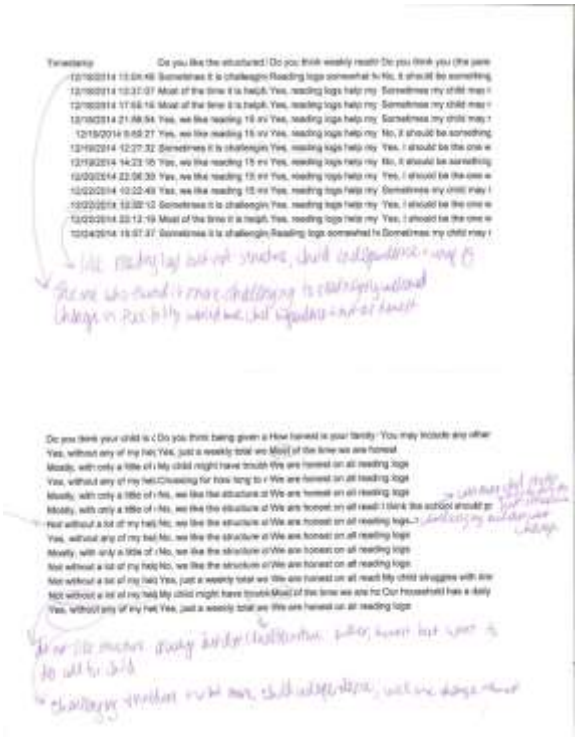


Figure 13: Pre-survey notes and coding p.4

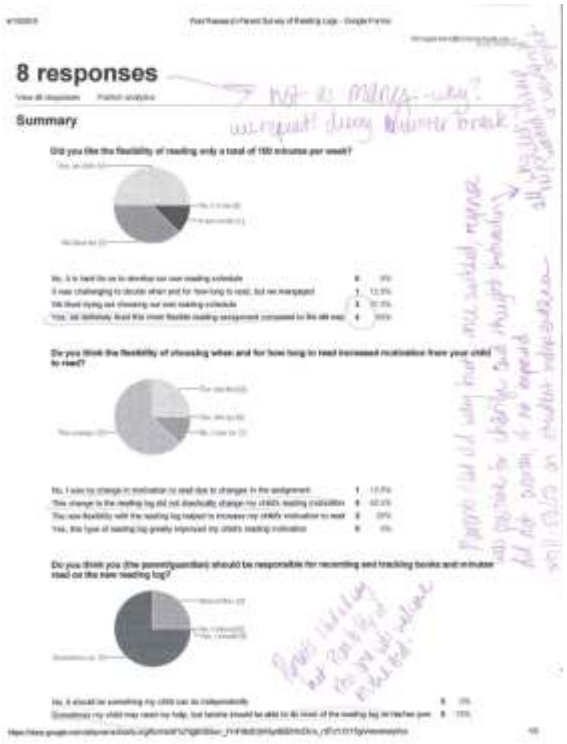
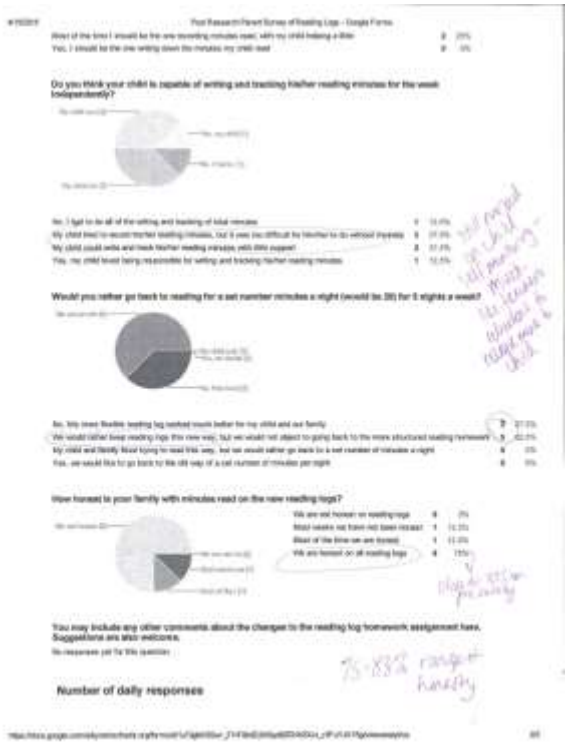


Figure 14: Post survey notes and coding p.1



coding p.2

Figure 16: Post survey notes and coding p.3