WHEN IS SEEING, UNDERSTANDING?

Creating meaning for
students with learning disabilities
using visualization strategies

By Amy C. King

UC Davis School of Education Masters Program

2005-2006

ABSTRACT

Name: Amy King
Title: When Is Seeing, Understanding? Creating Meaning for Students with Learning Disabilities Using Visualization Strategies

Research Question:

How can teaching special education students to visualize (picture in their own minds) the words and sentences they read, then verbalize (describe what they see) help them to remember and understand what they read?

Research Activities:
This intervention was conducted in a suburban Special Day Classroom for sixth, seventh, and eighth graders struggling to understand reading content. Among the 23 students, I chose six students with different grade levels, gender, LEP status, and learning disabilities. The study determined if intervening for five weeks, 20 minutes a day, would increase the students' ability to remember and understand what they had read. Questioning strategies and visualization scaffolding sessions led students to develop strong images in their minds. Students were asked to listen to 3-5 short sentences and to create descriptive pictures based upon the words they heard. After all images were created, students were asked to use their mind images to create a summary of events. An on-line cloze test was used to determine reading comprehension for pre-test and post-test results; other data included student surveys and observation checklists. Results showed evidence of success in five of the six students, increasing their grade level equivalency in reading comprehension between 0.2 and 0.6 of a grade level. Conclusions show that students are more aware of their own brain processes when reading and are more able to recognize when they are using imagery to understand and remember.

Grade Level: Sixth, Seventh, and Eighth Grades
Data Collection Methods: Reading assessment, Cloze, Surveys, Observation tallies
Project Descriptors: Middle school, Special education, ELL, Reading, Reading strategies, Reading comprehension

APPRECIATION

Thank you to my colleagues for understanding when my brain was absent at work.

Thank you to my professor and peers for reading and re-reading this monstrosity.

Thank you to my family and friends for understanding why I dropped off the face of the earth.

Thank you to my dog Simon for giving me ever-present love and forgiveness.

Thank you to my husband for believing in me while keeping me grounded in reality.

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF APPENDICES

PART I: INTRODUCTION

Introduction

Every morning it is a ritual. The Special Day Class recites the weekly poem. Every two weeks, I write a new poem on the board using multiple colors of dry erase ink. I decorate it with pictures that the work evokes in me as I read the poem to myself. The first time my mixed class of sixth, seventh, and eighth grade students are introduced to a poem, we talk about the title and the author. I then say a line of the poem and the students repeat it back to me. After that, we may talk about new vocabulary and the poem's meaning. Every day pieces of the poem are uncovered: rhyming words, stanzas, funny words, and rhythms. In addition to imagery, most of the poems also sing me a melody. After reciting a poem for a couple of days with students, I begin to create a song to accompany the poem and sometimes include gestures to enhance the meaning. Later, the song and gestures are also taught to the students.

I can truly say that I never contemplated the deeper curricular meaning of these tasks other than a warm, welcoming way to start the day. One day I asked the students to take a vote if they wanted to sing the poem or say it. All students voted their choice either way, except one, so I asked the class to vote again, not wanting to point out that she had not participated. Again, she did not vote. I asked the student directly, "Why didn't you vote?" What she said astonished me. She said that she did not vote because she did not see the point of learning to recite poems. She felt that singing them or saying them was not a learning experience. She wanted to concentrate on improving her reading and writing skills so she could move to a harder language arts class.

In an almost unconscious, guttural-self-defensive rant, my curricular intentions flew out of my mouth in front of the entire class. "How many students in this room have ever used the word bliss? Have you even seen this word before you read this poem? Did you ever know what it meant before we talked about it and recited it and pictured it and sang it? Did you know that words could

be used to show feelings of love, hate, and passion? How many of you knew a poem by Emily Dickenson before you started this class?" Then I stared at the student and said calmly and quietly, "Sometimes the best learning happens when we don't know we are learning."

Later, I asked the student if she understood what my purpose was. She said that she did not know it before, but now she did. Even though I had convinced this student that my poetry sessions had purpose, inside I was still unsure. How many of my students saw the pictures I saw from reading the poem? How many students retained meaning from the words they said again, and again? What made the difference between someone who found meaning in words and someone who did not? How might this opening activity be and/or become a way to help students move ahead in a system of leveling and performance-based assessments? These questions pushed me to experiment with the morning poem a little.

I started the next week's poem asking students to close their eyes. I told them they would listen to me read a line from the poem "Slowly" by James Reeves. When a word made them picture something in their mind, they were to raise their hand. I started with the first line watching and hoping to see hands popping up over bent-down heads. "Slowly the tide creeps up the sand." I did not see any hands. I recited the second line. "Slowly the shadows cross the land." Still no hands went up. I said the entire first stanza with nothing. In a panic, I quickly went to the first line of the second stanza: "Slowly, the hands move round the clock." One quiet hand went up. I stopped and asked the student to describe what he saw. He said he saw the hands of the clock moving around slow. I praised the student with a great big smile and told the class to continue picturing. Privately, I wondered if this student was only paraphrasing the poem, finally raising his hand when he heard words he could relate to: clock and slow. Overall, the response from my first class was dismal. They were not seeing anything and, in my mind, this meant they were not learning anything from the poems.

In my second class, a more fascinating thing happened. As we started the picturing process, one verbal student said to me, "Ms. King, give me any word and I can picture it for you." I stopped the entire process and I engaged him in a challenge in front of the whole class to picture the word "apple." Using the basis of the Visualizing and Verbalizing questioning strategies for creating imagery based upon word cues, we had a two-minute dialogue about "apple." He told me his pile of apples were a mixture of green and red and he was eating one of them. I asked him where the apples were: on the desk? "No," he replied, "in a basket." I asked him if the basket was purple or yellow. He said, "No, the basket is brown." The other students in the class listened and watched as I began to picture what this student was picturing. Then another student turned around in his desk and faced the visualizing student. "Do you really see all of that in your head?" he asked. "Yup, I do," the visualizing student said. The other student replied, "How do you do it?" The visualizing student said, "I don't know. The pictures are just there."

Research Question and Purpose – Preview

In my Language Arts class, I inherited a strong reading curriculum that supports phonics, decoding, and fluency. Every day I give students questions to answer based on these readings. These so-called 'comprehension questions,' however, assume that students inherently know *how* to comprehend; the questions assume that students know what strategies to use and when. The questions assume that all students have been taught or inadvertently learned *how to understand through reading*. Seeing how much my students struggle with reading comprehension fueled me to focus my intervention on a program that would teach students *how* to comprehend, not *what* to comprehend. These questions and the preliminary data that followed my query, led me to Bell's Visualizing and Verbalizing program. The Visualizing and Verbalizing program inspired my research question:

How can teaching special education students to visualize (picture in their own minds) the words and sentences they read, then verbalize (describe what they see), help them to remember and understand what they read?

The hope is that this program will give students the skills they need to transfer words into images, images to memories, memories to background knowledge, and background knowledge to understanding.

Description of Context

City of Greenfield

I teach in a Special Day Class (learning handicapped) for a combination of sixth, seventh, and eighth grade students at Greenfield Middle School in Greenfield, California. Greenfield Middle School (GMS) resides at the western edge of the City of Greenfield, bordering the Nuevo River wetlands.

While driving from Highway 64 toward the school, one sees that the houses closest to the freeway are older 1950s cinderblock homes. These homes are sometimes seen with miscellaneous items lying in the yards: old tires, boat parts, brooms, and appliances. Closer to the school are planned communities with 1960s ranch style homes. The yards of these homes are well kept and oftentimes have extra parking for RVs or other recreation vehicles. Immediately surrounding the school campus to the north and south are new 3,000 square foot, two-story homes. These new homes have perfectly landscaped yards with flagstone entryways, three-car garages, and views of the wetlands. It is clear when driving this east to west path that the residential community has been growing toward the west, toward the wetlands, where GMS is located.

The City of Greenfield is new, incorporated only for about ten years, and is mainly residential along Highway 64. In the past, Greenfield was rural with farms and horse ranches. Although some rural aspects remain, it has become suburban recently. In 1990, the city had

approximately 8,000 residents, contrasted with the 14,000 who live there today. The Nuevo Valley Economic Corporation estimates a 40% increase in the number of households between the year 2000 and the year 2004 with almost 2,400 new homes built during that time. The city council even approved a Super Wal-Mart to be built along the highway amid local opposition.

The city's population is made up of 28% blue-collar workers, 54% white-collar workers and 17% farm workers. The residents are 52% White, 20% Hispanic, 20% Asian, 9% African American, 2% Native Hawaiian/Pacific Islanders, 0.8% American Indian/Alaska Native, and 6.3% are two or more ethnicities.

The city is geographically small, about 3.6 square miles, and is split into two parts by the division of Highway 64. On the western end, Greenfield is bordered by the mouth of the Nuevo River. On the eastern end, it is bordered by the foothills of the Garden Springs Mountain Range. Although Greenfield is in Nuevo County, the City of Rockford is Greenfield's closest neighbor (they are geographically the same city; only county boundaries make them separate), making it a relevant part of Greenfield's businesses, population, traffic stream, and culture.

In this way, Greenfield is definitely a "middle ground." Oftentimes, Rockford families will move to Greenfield, sending their kids to GMS. Months later, the families wind up moving literally two blocks south (sometimes on the same street) into Rockford, and have to send their kids back to Rockford schools. This, and the general assumption among locals, parents, and teachers that Rockford schools are less than satisfactory, causes a constant upheaval of students between the Rockford Unified School District and the Nuevo Valley Unified School District. With the population of GMS growing ever-steadily, the crack down on Rockford City residents has been tough this year. This year, I have had seven students leave my classroom when they were found to be Rockford residents.

Nuevo Valley Unified School District

Just as Greenfield relies upon Rockford for its culture and shopping, so does Greenfield rely upon the Nuevo Valley for resources and support. All Greenfield students are bussed to Nuevo for high school. The bussing will continue until the first high school in Greenfield is opened sometime around 2010.

The Nuevo Valley Unified School District (NVUSD) is a financially stable district serving 32 schools: 22 elementary schools, 5 middle schools, 4 high schools (one is a continuation school), and one adult school. NVUSD supports special education Programs, GATE programs, and English Language Learner programs. Since the recent passage of the federal No Child Left Behind Act in conjunction with the Individuals with Disabilities Education Act 2004, new details of laws and regulations have been trickling to my classroom from the district. New individualized education plan forms, new dates and deadlines, new goals and objectives, and new guidelines for assessment and student referrals, all aim to make special education more standards-based and less paper-work laden.

Greenfield Middle School

An eight-year-old school, Greenfield Middle School began with its first class of 150 sixth graders in 1998. Now, GMS is a bustling campus of 750 pre-teens and teenagers. Opened in January 2005, my classroom is located in a new, two-story building facing south, opening its massive C-shaped mouth to the rest of the campus including a new grassy lawn. The trees on campus are small, a sign of a new school, and provide little shade for students. The wind from the wetlands can become strong in the afternoon, and many of these baby trees are leaning east in response to this powerful force. At first, having my classroom in the new building was a novelty for my students. This novelty wore off when the general education students began to observe that my room is the "special education room" and started to tease my students again. Some of my students hide until after the bell, trading timeliness for their embarrassment of being seen entering my door.

The GMS student body is more ethnically diverse than district or state averages. The demographics for GMS are 40% White, 28% Hispanic, 11% African-American, 17% Filipino, and 4% Asian-American. In contrast, NVUSD serves primarily Caucasian and Hispanic students, as does the state of California. Greenfield Middle School's diversity could be because Rockford, a reasonably diverse city, is in close proximity to Greenfield, providing culture and support to residents. In the recent past, Greenfield was seen as affordable for Bay Area residents seeking refuge from the increasing housing prices elsewhere. However, prices are quickly matching those of other Bay Area cities, such as Nuevo.

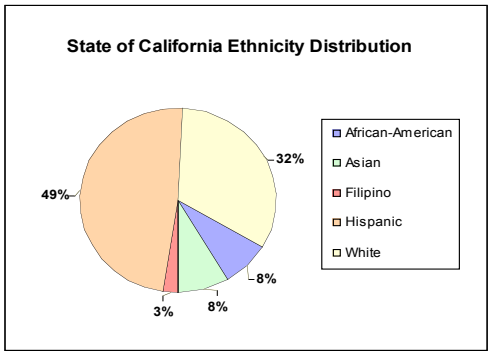


Figure 1: California's ethnicity distribution is primarily Hispanic at 49% and White at 32%.

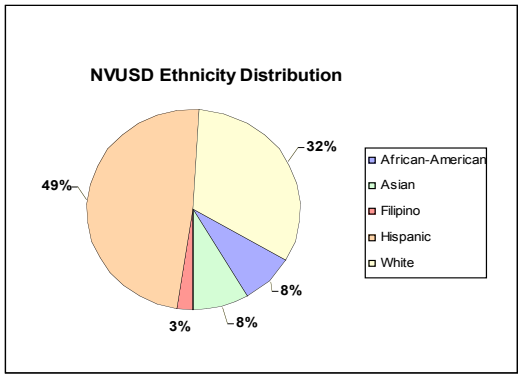


Figure 2: Nuevo Valley Unified School District's largest population of students is White at 50%, followed closely by Hispanic students at 42%.

The faculty at GMS is a vibrant, passionate group. Led by a dynamic and structured principal, the school has a strong feeling of family, teamwork, and community. Teachers often comment on the administration support received in all areas, especially disciplinary problems. This creates a safe, family-like atmosphere. Last year, GMS was nominated as a California Distinguished School, and our application was accepted as one of 85 middle schools in California.

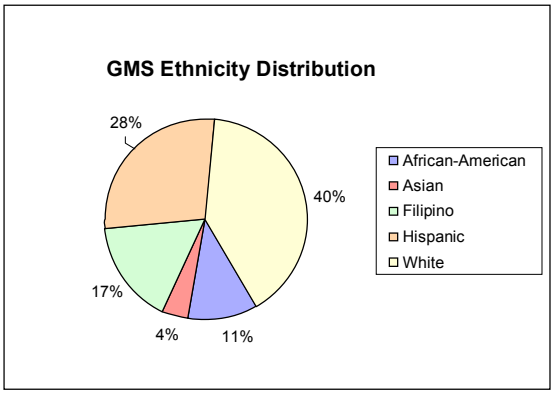


Figure 3: Greenfield Middle School's largest population of students is White at 40%, followed by Hispanic students at 28%. The next largest group of students is Filipino at 17%, quite a leap from NVUSD's 4%. The African-American population is 11% at GMS compared with 2% at the district.

There are two EL teachers at GMS and the program

integrates technology and the social sciences with learning English. General education science and social science teachers support the EL program by providing an accommodated curriculum to EL students while still delivering the academic standards of the grade-level. The EL teachers work with students using poetry, PowerPoint, and books on tape to help them master the English language.

This year, I am teaching Humanities (Language Arts and History) and my Special Day Classroom (SDC) colleague is teaching Math and Science. Most of the SDC students rotate between my class and my colleague's class for academics; however, some students take Language Arts or Math in the Resource room. All students take their electives and P.E. classes with the general education population. There are thirty-three students on the SDC roster this year, sixteen of whom are on my caseload.

Family-School Connections

It is almost impossible to be uninvolved with the families as a special education (SPED) teacher. At a minimum, SPED teachers are required to meet in person with parents once a year for the IEP meeting to discuss placement and progress on learning goals. The IEP team consists of the parent/guardian, SPED teacher, general education teacher, and administrator. Additional members may include the school psychologist, speech therapist, behaviorist, and any other person that the parent wishes to bring including a lawyer or outside psychologist. The IEP team requires interaction, discussion, review, and agreement. Each team member has an equal voice and decisions cannot be reached without full agreement. The learning goals are to be written in collaboration with parents/guardians, and SPED teachers are expected to maintain correspondence three times a year on the progress of these goals. In reality, most parents are very trusting of teachers in their ability to write appropriate goals and do not choose to make many changes in the meeting.

Although the IEP paperwork is definitely daunting at times, the opportunity to work one-on-one with a student and have specific conversations with the parents becomes a very special

bonding time. With the students, I use informal and formal assessments, talk with them about their personal goals, their strengths and weaknesses, and let them know their rights. Later, I construct a paragraph on the student's academic progress in each subject and develop specific learning goals to fit that student's particular needs. These writings are shared and discussed at the IEP meeting. This process helps me know the student in such a deep and personal way.

At the meeting, the team discusses the learning goals and decides whether they are appropriate for the student. Armed with this information, placement decisions are made (e.g., is the student promoted to the more difficult special education class of Resource Math, does the student need more support in Language Arts, etc.). I have found the parent interactions to be positive and informative, as they often confirm my observations with their knowledge of the student's personal environment and behavior. Of course, these meetings are in addition to the traditional communication methods: Back to School nights, parent conferences, progress reports, and official trimester grades. GMS also provides two Open House-type events a year; we call them "Project Nights."

However, my mentor and colleague established a way of communicating with families that is much more than just paperwork, and she has passed this technique on to me. Before upcoming sixth graders enter our doors for the first time, we attend their fifth grade IEP meetings, meet the parents, and let them know what middle school will be like. My colleague and I have been known to stop by the elementary school on our prep periods to visit fifth grade students and observe them in class. We also organize a field trip for the entire fifth grade SDC class to visit GMS, receiving a tour from our current students. When necessary, my colleague and I have made home visits to students, making sure our presence and care is known to the families while giving us insight into the environment in which our students live. Of course, regular phone calls and emails are also a part of our communication.

Teaching English Learners and Addressing a Diversity of Students

Teaching in a Special Day Classroom essentially means that I have students who struggle with the academic portion of school, so much so, that they need their own classroom complete with a full-time classroom aide. The SDC students are "normal" in many ways, with friends in general education classes, and they are often socially, emotionally, and physically mature. My struggle is to balance this maturity with their severe academic setbacks. Students can qualify for special education for various reasons including autism, emotional disturbance (ED), mental retardation (MR), or a specific learning disability (SLD). Under the category "specific learning disability," students may qualify for services due to visual processing, auditory processing, visual-motor difficulties, language disorders (morphology, semantics, pragmatics), and speech and language difficulties. Many of my students have a combination of these issues and/or are also considered Limited English Proficient (LEP). Students cannot qualify for special education as an LEP student alone; they must also have a qualifying disability with one of the labels above. The graph below shows the distribution of learning disabilities in my first block language arts class:

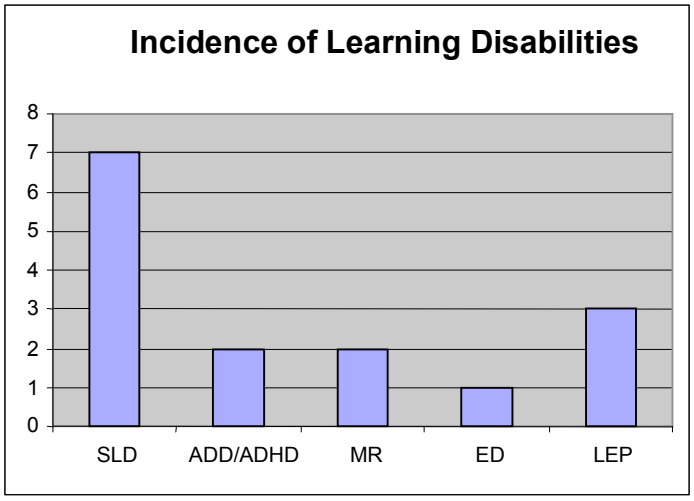


Figure 4: It is clear that Specific Learning Disabilities dominate the landscape in this class. However, it is important to note that this chart reflects all disabilities and English Language Learner status manifested with any one student. There are several incidences of co-morbidity; therefore, the total will not equal the total number of students in the class.

Special education services are provided to students in a variety of ways. At GMS, there are two levels of special education: Resource and the Special Day Class (SDC). In order to qualify as a Resource student, the students must spend 50% or less of their time in special education classes. In the GMS block schedule environment, this means that Resource students must be, at a minimum, taking general education courses in science, history, PE, and an elective course. Resource students may or may not take Resource classes in language arts and math, depending upon their needs. In order to qualify for SDC, the students must spend between 51%-75% of their time in special education classes. In the GMS block schedule environment, this means that SDC students must be taking all academic classes through the Resource or SDC department with general education courses in PE and an elective course. Many students in the SDC program take Resource math or Resource language arts classes (which are more difficult than SDC math and language arts). Since the Resource classes are considered special education classes, these classes count toward the SPED percentage for those students. It is important to note that there is only one science class (7th grade) specifically designed for LEP students and only one history class (8th grade) specifically designed for struggling readers. This makes the transition from being an SDC student to a Resource student a huge jump.

Last year, we had an opportunity to serve one of our SDC/LEP students in the EL classroom. This provided her with an opportunity to meet friends outside of the SDC classroom while receiving services specifically for her language development (through EL) and for her learning disability (through SDC). This type of interaction between departments is always sought out, although not always possible in the restrictive block schedule format. Nevertheless, addressing students learning English in the special education classroom is very similar to addressing the needs of a student with learning disabilities. Both SPED and LEP students may show appropriate

development in oral English; however, both can also be years behind in their academic English (Drucker, 2003).

According to Drucker (2003), it is important for teachers to ensure that written language is comprehensible to LEP students. One method Drucker suggests is choral reading combined with "gestures that help the children dramatically act out the meaning." After reading this, I realized that my morning poem is a choral reading activity that can benefit both LEP and SPED students. Another way to help LEP students gain access to the written word is audio books. Listening to strong readers has been shown to develop reading fluency by enabling students to "simultaneously hear sounds and see the corresponding graphic representation (Drucker, 2003). In Drucker's article (2003), she mentions that audio books specifically help learning disabled students, but also benefit LEP students. To promote reading fluency in my classroom, students use Read Naturally, a reading program on the computer. Students are provided with non-fiction reading passages at their independent reading level. The program includes pictures and ways to preview unknown vocabulary. Students listen to the reading passages through headphones as many times as they need, and then practice reading the passage on their own until they feel confident enough to read the passage to a teacher. All of my students seem excited to work on the computer, and feel proud when they can read a difficult passage by themselves.

Herrell (2004) believes that finding ways for students to successfully demonstrate their knowledge is just as important as making the reading passages comprehensible. In my classroom, students are given opportunities to demonstrate their knowledge in many ways including oral answers, visual displays, team responses, and acting-it-out. This is in contrast to the "read and write" format of traditional classrooms. When written output is required in my class, students are given graphic organizers and appropriate scaffolding. For example, in history, every student wrote ten paragraphs, one for each role they play in the community. Students worked on the paragraphs in

class with a paragraph form (it included a pre-written topic sentence and conclusion that students completed by filling in the missing words), graphic organizer, and peer editors.

Target Audience

I decided to use a subgroup of my first block as the target audience because they were the students who struggled with visualizing the most. Although not discussed here, the intervention was given to all twenty-five language arts students. The target audience consists of six students: three boys and three girls, two sixth graders, two seventh graders, and two eighth graders. The students are diverse in grade level, ethnicity, length of time in special education, learning disability, and English language status.

Student	Grade Level	Ethnicity	Grade level entered SPED	Learning Disability	Speech Svcs?	LEP Status
Mandy	6	Jordanian	First grade / Fourth grade	Sensory-Motor Skills, Attention Difficulties	No	LEP
Catherine	6	Hispanic	Fourth grade	Mental Retardation, Memory, Language Processing	Yes	LEP
Ronald	7	Filipino	Second grade	Language Disorder: syntax, semantics, pragmatics	No	EO
Junior	7	Filipino	Kindergarten / First grade	Auditory Processing Disorder, Language Skills	Yes	EO
Fernando	8	Hispanic	First grade	Language Disorder in semantics	No (exited this yr)	LEP
Aisha	8	African-American	Fourth grade	Visual Processing Disorder (past issues with Auditory Processing and Sensory-Motor Skills)	No	EO

Figure 5: The table shows the diversity in academic need, disability, LEP status and grade level for the six students chosen for the intervention.

Student Profiles

Mandy — 6th grade Jordanian female. She currently takes all academic classes through the SDC program. She takes her elective and P.E. classes with the general education population (as do the following target students, therefore I will not repeat this information for the following profiles). Mandy entered special education and speech services in first grade for attention difficulties. After being placed on medication, she improved greatly and was able to re-enter the general education

class with Resource support in language arts. This continued through fourth grade when additional difficulties began to surface. In fifth grade, her placement was changed to a full-time SDC student. Her specific learning disability is a Sensory-Motor Difficulty. and Attention. She is Limited English Proficient; her home language is Arabic. Her academic skills are a relative strength. She reads and writes one to two years below grade level. Her math skills are just slightly below grade level. Mandy consistently turns in her homework, follows class rules, and generally seems to enjoy class. She has immature social skills (clings to people physically including hugging and holding onto them, and asks awkward questions) but is normally developed physically. She has difficulty forming friendships with other students and craves adult attention. She is often seen waiting outside of the classroom door alone or follows teachers around the campus. Mandy is the oldest of three children and lives with her mother and father, who appear to be educated individuals. Mandy's younger sister is a normally developed pre-adolescent (not in special education), while her youngest brother shows signs of learning disabilities in addition to being deaf. Mandy is attending sign-language classes with the family so that they can all communicate with her younger brother.

Catherine — 6th grade Hispanic female. She currently takes all academic classes through the SDC program with additional services in speech and language. She entered special education in the fourth grade receiving Resource support in language arts and math. At the beginning of her sixth grade year, services were changed to full-time SDC. Her primary reason for receiving services is Mental Retardation with secondary problems in memory and Language Processing. She is Limited English Proficient; her home language is Spanish. Her achievement test scores from the fourth grade indicate that she had significant delays in reading comprehension, listening comprehension, and math. Her spelling and word reading were relative strengths. It is difficult for her to remember reading passages or other academic tasks from one day to the next. Catherine consistently turns in her homework and follows class rules, although she can be stubborn at times and refuse to participate in class activities. This is especially true when the activity is new to her or she believes she will be watched by other students. She has average social skills and physical development for her age. She has made friends with a group of SDC girls, of which she is seen as a leader. Catherine lives with her mother and father, and her fourteen other siblings. Catherine is the eleventh child and just relayed news that her mother is pregnant with their fifteenth child. Many of Catherine's siblings also received special education services throughout their school years. Her fifteen-year-old sister just had her first baby and Catherine was somewhat excited, yet confused about becoming an aunt.

Ronald — 7th grade Filipino male. He currently takes all academic classes through the SDC program with additional services in speech and language. He entered special education in the second grade receiving Resource support in language arts and math. At the beginning of his sixth grade year, services were changed to full-time SDC. His specific learning disability is a Language Disorder with specific needs in syntax, semantics, and pragmatics. This affects his acquisition of academic skills and his ability to understand and remember complex vocabulary. Ronald is not considered an English Language Learner. Ronald's decoding skills are a relative strength. He can decode at the 5th grade level; however, his reading comprehension is solid at the third grade level. Ronald oftentimes has difficulty starting work that requires original thinking (such as writing in a journal or explaining his thoughts and feelings). Ronald consistently turns in his homework, follows class rules, and generally seems to enjoy class. He is social and talkative with his friends before and after class, and during group work. However, when a teacher works with him one-on-one, he becomes extremely shy and nervous. I often wonder how this shyness affects his scores on individual reading tests. Ronald is popular among his friends, a group of SDC boys. Ronald lives with his mother and father, two older sisters, and older brother (who is also in the SDC program at GMS). Ronald's mother and father are high-achieving, intelligent individuals as are his older sisters. However, both of the boys are affected with severe learning disabilities and have relatively low-levels of functioning, a mystery which the parents often refer to in meetings.

Junior — 7th grade Filipino male. He currently takes all academic classes through the SDC program, except math, which he takes through the Resource program. He also receives additional services in speech and language. He entered special education in kindergarten, receiving speech and language services. Soon after, he was tested and found to need additional support through the Resource program. This continued until his fourth grade year. At the beginning of his fifth grade year, services were changed to full-time SDC. His specific learning disability is an Auditory Processing Disorder and Language Skills that requires visual aides and modified instructions. The Auditory Processing Disorder affects his ability to acquire information through oral stimuli; the Language Skills Disorder affects his ability to understand and remember complex vocabulary and speak with age-appropriate vocabulary and word fluency. Junior does not have a stutter per se, but he does repeat words or use non-concise language that causes his speech to sound jumbled and confused. Junior is not considered an English Language Learner. Junior's relative strengths are his

math calculation skills, which are near grade level. He can read and understand at the third grade level. Junior consistently turns in his homework, although he oftentimes misunderstands the instructions and becomes frustrated. He follows class rules regularly but loves to try to trick the teachers into thinking he is breaking the rules; for example, he will enter the class with his head down and tell me he forgot his homework when he really did not forget it. It seems that this is his way of being 'cool' without getting into real trouble. Junior knows that he is in special education and hates it. He frequently asks his teachers why he has to be in special education because the other students make fun of him. Junior will hide his head inside his jacket hood before entering my class. Junior made the basketball team this year and is very proud of this accomplishment. Although he is friendly with students in the SDC class, Junior is more likely seen with higher-level Resource students or even general education students. Junior lives with his mother and father, and younger brother. Junior is very close to his family as evidenced by their participation in his education and their responsive phone calls.

Fernando — 8th grade Hispanic male. He currently takes all academic classes through the SDC program, except math, which he takes through the Resource program. He entered special education in first grade. His specific learning disability is a Language Disorder in Semantics with discrepancies in reading comprehension, basic reading, written expression, math reasoning, and math calculation. He is considered Limited English Proficient; his home language is Spanish. Psychologist reports also show difficulties with visual-motor skills. He received speech services from kindergarten through eighth grade, when he was exited. He was born premature and had numerous speech and language difficulties throughout his early educational years. All of his speech difficulties have resolved except for a few s/th confusions. His achievement test scores from the seventh grade indicate that while his word reading, reading comprehension, and writing were all below the seventh percentile for his age, his math skills were in the low average range. Fernando consistently turns in his homework, follows class rules, and generally seems to enjoy class. He has average social skills but is physically small for his age. He is polite, loyal, and modest. He has strong friendships with his SDC peers, and is friendly with a few general education students. Fernando lives with his mother, father, twin sister (who is also in the SDC program at GMS), and little brother. He has two older sisters who also received special education services, one of whom has a child of her own. His family is close knit and very protective of him. Every summer the family goes to Mexico to visit relatives.

Aisha — 8th grade African-American female. She currently takes all academic classes through the SDC program, except math, which she takes through the Resource program. Her specific learning disability is a Visual Processing Disorder, although past paperwork also indicates discrepancies in Auditory Processing and Sensory-Motor Skills. Aisha is not an English Language Learner. Aisha was in general education classes through third grade; she was tested for SPED but did not qualify for services. Her mother asked the school to test Aisha again in fourth grade. At this time, she qualified for support in Resource language arts. In sixth grade, her placement was changed to a full-time SDC student. When Aisha realized this change (after a month in middle school), she became extremely frustrated and had major behavior difficulties such as bullying (stealing other students' money), defiance (refusal to do work), and outbursts (yelling at teachers). She has been suspended many times in three years and will not be allowed to walk the stage for her graduation. Aisha's family life is tumultuous; she lives with her very young mother (only 28 years old), her four siblings, and four adopted cousins. As the oldest, Aisha is often left at home taking care of her youngest siblings and cousins.

Her achievement test scores from the eighth grade indicate that while her word reading and reading comprehension are all below the tenth percentile for her age, her math and writing skills are in the low average range. Aisha is frequently tardy for class and rarely turns in her homework. She seems to enjoy class when she can see the direct relationship of the topic to her life. Other times she seems bored or disengaged with the school environment, almost as if she is thinking of things outside of school. She is an attractive and popular student inside and outside of the SDC classroom, and physically developed for her age. She often talks about how people mistake her for a high school student. In general, her overall attitude and work ethic have improved greatly this year and she has made a concerted effort to develop personally and academically, including signing up for an anger management class on campus. While Aisha is friendly with other SDC students, she is most often seen hanging out with a popular crowd of eighth graders.

Research Question – Rationale and Purpose

According to Bell (1991), "Reading Comprehension is cognition." Dictionary.com defines cognition as the "mental process of knowing, including aspects such as awareness, perception, reasoning, and judgment." Have you ever thought about how people *know*? I realized that *knowing*

just seemed to happen for me. I do not remember any specific teaching that taught me how to *know*. I remember someone teaching me how to read, that is, decode words. No one ever taught me specifically how to understand what I was reading. I just did. Looking at the definition of cognition made me realize that cognition, or knowing, is not something that just happened to me in the blink of an eye. It was a process.

Reading comprehension, or knowing, is the primary reason people read. People read so that they can learn, think, understand more, and experience the world through the eyes of another person. Really, without understanding what we read, decoding the words themselves is a futile task. The incident with the morning poem and my assumption that students *know* the way that I *know* began my quest to discover what information my students receive from their reading experiences.

The results from my pre-intervention achievement data on the STAR Reading Test showed that all of my target students were recognizing words and comprehending at 3.0 grade level or below. This data reminded me that my students struggle with *knowing* so severely, that they are reading 3-6 years below grade level. They need a variety of techniques (previewing, choral reading, cultural relativity) to make the language comprehensible (Drucker, 2003). They cannot learn through reading on their own, without a translator like me, to help them. This puts them at a huge disadvantage when they go out into the real world. The internet is inaccessible to them, television ads can become confusing, road signs may be misconstrued, and reading the newspaper is not a reality for them.

The pre-intervention attitude data from the Student Reading Surveys asked students what they would fix in their own reading. Results showed that five of the six students wanted to understand more of what they read, and four of the six students wanted to remember more of what they read. (Each student chose two things to work on.) The table below synthesizes the information from the Student Reading Survey with subjective analysis from me:

Student	Grade Level	Fluency	Accuracy	Comprehension	Memory
Mandy	6	H	H	M	**L**
Catherine	6	H	**M**	L	L
Ronald	7	H	M	**L**	L
Junior	7	M	M	**M**	M
Fernando	8	**L**	L	M	M
Aisha	8	**L**	L	M	M

Figure 6: The letters in each box show my subjective assessment of each student's strengths and weaknesses on four reading categories that correspond with the student survey. Students were ranked with H=High ability, M=Medium ability, and L=Low ability. Then these letters were coded to show what the students wanted to change about their own reading. **Bolded/Dark Grey** items were the student's first choices and Underlined/Light Grey items were the student's second choices.

Mandy, Ronald, Fernando, and Catherine all hoped to change their greatest weaknesses as their first priority. All students, in general, were aware of their weaknesses and wanted to improve their skills, especially in reading comprehension. There were two votes to improve reading Fluency, two votes to improve reading accuracy, five votes to understand more, and three votes to remember more. This information fueled me to focus my intervention on a technique that would teach students *how* to comprehend, because it was clear that the students had not yet taught themselves how to make sense from reading the way that I did as a child.

According to Pavio's dual-coding theory (1990), information is stored in our brains in two ways: a linguistic form and an imagery form. The linguistic form is important because this is how most information in schools is distributed. The imagery form is just as important and very powerful because it includes not just pictures, but also things like taste, smell, sounds, and even touch (Marzano, 2001). Essentially, Pavio (1990) believed that for the most recall or recognition, people must receive information in both visual and verbal form. Marzano (2001) discusses nonlinguistic representations, or ways to entice student imagery, imagination, understanding, and memory. Marzano found hundreds of different studies that show gains between 19-40% in student

understanding when using such techniques. When I saw two of the top methods were creating graphic representations and generating mental pictures for words, I was immediately connected to my morning poem and my own process of understanding. Helping students see the imagery I so readily saw became more tangible and possible.

I decided to do an internet search to find specific curricular programs that helped students develop nonlinguistic representations for words. Mental imagery continued to come to mind as the most powerful method, so I began to search for reading comprehension and creating images. I sorted through many different links and found this synopsis: "P R O B L E M . . . Michelle reads words accurately, but she can't comprehend the content. She has difficulty connecting to language she reads or language she hears. Words seem to go in one ear and out the other. People think she is not trying, and she has been labeled a 'motivation' or 'attention' problem. Many times this can be associated with those diagnosed with ADD (Attention Deficit Disorder), with or without hyperactivity." (Lindamood, 2005). This synopsis captured some of my students exactly. According to the website, students with these problems could not remember because they cannot see images. The website had a solution: *teach* students to create images using Bell's Visualizing and Verbalizing program. The curriculum promised to help students who decode well, but have difficulty comprehending. It seemed to be exactly what I needed for my students. I ordered the curriculum and read the entire teacher manual. The curriculum was so inspiring and practical; it ultimately guided my research question:

> **How can teaching special education students to visualize (picture in their own minds) the words and sentences they read, then verbalize (describe what they see), help them to remember and understand what they read?**

In order to build concrete imagery in their brain, the Bell curriculum requires that students make sense of the words by relating them to something they already know, then build an image in their mind. Using imagery and connecting to background knowledge is a proven technique used with

English Language Learners (Herrell, 2004). I felt it could also be beneficial to students with Language Disorders.

With concrete imagery in their brains connected to words on the page, my hope was that students would be able to retrieve information more easily, and with more details and understanding. I had already implemented programs to work on fluency and decoding in my classroom. I knew that I needed to do more to develop reading comprehension skills. Besides filling a gap in my curriculum, the Student Reading Surveys confirmed that such an intervention would be crucial to helping students reach their personal goals.

Literature Sources and Expert Practitioners

My primary focus in research was to find a curriculum proven to work with special education students in the area of reading comprehension. The Visualizing and Verbalizing program focuses on creating meaning and memory by using imagery. Their website claimed that the program worked for students with learning disabilities. I wanted to find research that supported or discounted the idea that imagery helps students understand and remember what they read.

To begin, I found an article that confirmed my own practice (and frustration with my own practice) and that asserted that reading instruction for LEP and special education students focused too much on the "basics" (i.e., phonics, decoding, and fluency) and not enough on teaching comprehension or higher order thinking skills. Padrón (1992) discusses this as a major reason explaining why low-achieving students are not catching up to their higher achieving peers. Misconceptions among educators that students must master English or master phonics *before* they can begin higher-level thinking has skewed the curriculum away from teaching students how to comprehend. Studies show that mature readers "are more likely to use a variety of cognitive strategies" when reading (Padrón, 1992). How can lower-performing students become mature

readers if they are never *taught* a variety of ways to understand? Padrón found that when LEP students were instructed using specific comprehension monitoring strategies (reciprocal teaching and question-answer relationships), they performed better on specific tests and tended to decrease the use of inefficient comprehension strategies (copying words from the story, thinking about other things while reading). Another interesting aspect to Padrón's (1992) research was her questionnaire. She asked bilingual students to select their favorite reading strategies, seven of which were found to negatively affect students' reading comprehension and seven of which were found to positively affect students' reading comprehension. Three positive techniques were (a) summarizing in writing, (b) checking through the story to see if you remembered all of it, and (c) imaging or picturing the story in your mind (Padrón, 1992). Padrón (1992) found that older students selected imaging as a technique more often than younger students did, and students who had been taught comprehension using Reciprocal Teaching were more likely to summarize. Knowing that these techniques were effective for LEP students validated my decision to use the Visualizing and Verbalizing program because each of these strategies is an integral part of the curriculum.

The creator of Visualizing and Verbalizing, Bell, has her own research on visualization and comprehension. According to Bell (1991a), comprehending language "is the ability to connect to and interpret both oral and written language. It is the ability to recall facts, get the main idea, make an inference, draw a conclusion, predict/extend, and evaluate. It is the ability to reason from language that is heard and language that is read. It is cognition" (Bell, 1991a).

How does one teach cognition? My students, by their own identification, have difficulty in this area. The decoding and phonics programs that I use, SRA Corrective Reading and Read Naturally, claim to teach comprehension. In reality, they teach phonics, decoding, and fluency, with many comprehension questions at the end. Neither program provides ways to teach students *how* to remember what they just read, *how* to connect it to their own lives, or *how* to understand complex

imagery. It is simply expected that the teacher will ask the questions and the students will know the answers.

Bell's research directly addresses these complex issues. Bell (1991a) states that language comprehension disorders do exist. These disorders are sensory in nature and prevent people from making complete pictures (gestalts) in their brain of the words they are reading. Good readers take for granted that as they read, the brain creates a main idea image, and as more details are read, more details are added to the original image. With language comprehension disorders, however, readers may create images only for one part of what they are reading, absent from the main idea or whole. With such a disorder, as new details are read, instead of adding them to the original image, separate images are created. This causes major difficulties in understanding cause and effect, abstractions, relationships, and even main ideas. Of course, such understanding is the core of reading comprehension. Therefore, if readers do not create complete gestalt images, they will not comprehend the reading (Bell, 1991a). As promising as Bell's research sounded, I wanted to discover what other researchers learned about the imaging process.

Truch (1996) corroborates my observation that curriculum developers have created many methods for teaching phonics, decoding, and fluency. However, if students are *only* struggling with reading comprehension, the comprehension strategies embedded in phonics programs are too shallow to help (re-read the text, look up the word in the dictionary; underline the most important part of the passage, etc.) (Truch, 1996). In his study, Truch (1996) delineates two learning difficulties: dyslexia: those students who cannot decode; and hyperlexia: those students who cannot comprehend. To demonstrate the differences, Truch (1996) presented a table similar to the following:

Classification of Reading Problems

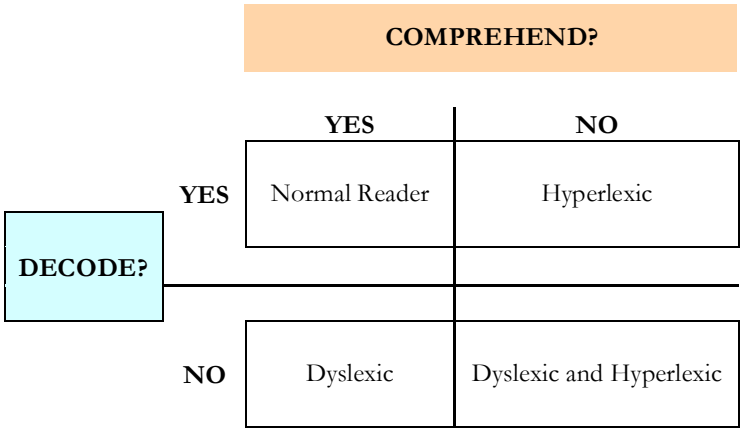


Figure 7: According to Truch (1996), students who can decode and comprehend are considered normal readers. Those who can comprehend, but cannot decode are often considered dyslexic. Students who can decode but cannot comprehend are sometimes called 'word callers' by educators. Here Truch (1996) calls them 'hyperlexic.'

Two different issues in reading substantiate a need for two different kinds of curriculum and two different bodies of research. Truch (1996) notes that the research world is just as lopsided as curriculum development: there is much research conducted on students with dyslexia, but not much research on students (or strategies) for students with hyperlexia. Like me, Truch (1996) found the Visualizing and Verbalizing program, and developed a research question using hyperlexic students. In his research, he discovered that using Bell's Visualizing and Verbalizing program did help hyperlexic students comprehend more.

Contrary to Bell and Truch, Hamilton & Shinn (2003) researched the ability of teachers to observe and identify three groups of students: normal readers, poor readers, and hyperlexic readers. Hamilton & Shinn (2003) call the hyperlexic readers 'word-callers' after a popular teacher term. What they found is that teachers were on average, half-correct when identifying students as word-callers. While the word-calling students did not perform as well on the comprehension tests as the teachers predicted, those students were also less able to decode text than their average grade-level peers. Therefore, Hamilton & Shinn (2003) deduced that teachers tended to overestimate the ability of

word-callers' decoding abilities, possibly due to the discrepancy in their comprehension abilities. In either situation, Hamilton & Shinn (2003) believe that the 'word-caller' is more of a teacher-created problem than an actual one. Hamilton & Shinn (2003) believe that fluency is directly related to reading comprehension rather than to any other imaged-based or background knowledge problem.

Based upon this study, it could be that all of my students simply decode poorly and my observations are skewed because I can only compare these special education students with each other. Therefore, the basis of my deciding whether a student is a strong decoder or a weak one is somewhat subjective. Nevertheless, my curriculum for phonics, decoding, and fluency is present; it could not hurt to also integrate curriculum that works on imagery, memory, and comprehension.

Scientific evidence from Turkeltaub, Flowers, Verbalis, Miranda, Gareau, & Eden (2004) discount Hamilton & Shinn by demonstrating that hyperlexia is a real condition and can be demonstrated through fMRI imaging. Turkeltaub et al. (2004) studied a nine-year old autistic boy who was found to read six years above his developmental age. The study acknowledges that hyperlexic students, although demonstrating strong reading skills often "cannot comprehend all that they read" (Turkeltaub et al., 2004). In the case of this young boy, the researchers found that during reading, his brain had more activity in the left hemisphere than students of his natural age and when compared to those of his reading age. However, they also found more activity in the right hemisphere when compared to students of his reading age. Turkeltaub et al. (2004) aptly concluded, "hyperlexic reading is therefore associated with hyperactivation of the left superior temporal cortex, much in the same way as dyslexia is associated with hypoactivation of this area." This is interesting to note because it gives a medical basis for Truch's (1996) ideas that dyslexia and hyperlexia are in fact two different things that manifest themselves in two different ways in the brain. It also supports the idea that different strategies are required for different reading needs.

Although there is no direct proof that Visualizing and Verbalizing influences brain activity, the curriculum makes students aware of how they use their brain to learn. In addition, if students are given the opportunity to stimulate their brains in ways they never have, it can only help increase brain activity in new ways.

Preliminary Data

During the first few months of school, I began to collect different data sources to help guide the development of my research question. This was easy because students are assessed frequently in the special education classroom. Students are assessed informally to begin different curriculums at the proper level. These assessments inform me which students need targeted instruction in specific reading skills and help guide me in creating learning groups.

I collected data from the SRA Corrective Reading Decoding Placement Test (SRA). The SRA test is a decoding and fluency test that uses a placement schedule based upon the number of errors a student makes and the amount of time it takes for a student to read a passage. Based upon this information, the student is placed in the appropriate reading book. When I realized that I wanted to focus on reading comprehension, this data was not as useful.

Pre-Intervention Baseline Data

Achievement Data

After I tested students using SRA, I decided I wanted to use the Accelerated Reader program (developed by Renaissance Learning) as a homework program. Students were assessed on the Accelerated Reader STAR Reading Test, an online cloze test, to find the appropriate reading level. This test is a measure of contextual comprehension and is norm-referenced. Students can be tested up to three times per year and the computer can generate a report that compares all three scores.

Once I realized that I would be focusing on reading comprehension for my intervention, I decided to use this test for preliminary data. I liked the idea of using the STAR reading test because it is a comprehension test unrelated to the intervention curriculum, while providing multiple ways to show reading comprehension results including standard scores, grade equivalency, percentile rank, and independent reading level.

In September, I took all the students to the computer lab and introduced them to the STAR software. The test starts with a simple sentence, and asks students to choose a word that fits the context of the sentence, called Vocabulary-in-Context Questions (Renaissance Learning, 2006). All students were given three practice questions to get them accustomed to the keyboard and question style. After the practice session, the test begins. Each test contains 25 questions that are leveled based upon the student's answers to previous questions. For example, if a student answers a question correctly, the next question will be more difficult. If the student answers a question incorrectly, the next question will be at the same level or easier, until the student can answer the question correctly. All tests begin with Vocabulary in-Context Questions, which are simple sentences. As the test progresses, the questions become paragraph based or Authentic Text Questions.

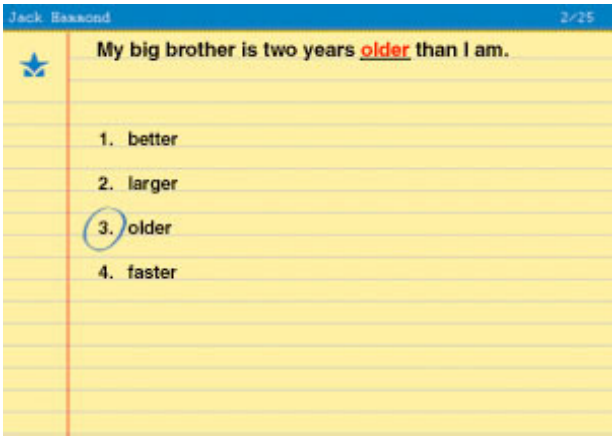


Figure 8: Students should read the question first, and then choose the appropriate choice from the options below. They must hit 'Enter' to make their selection and move to the next question.

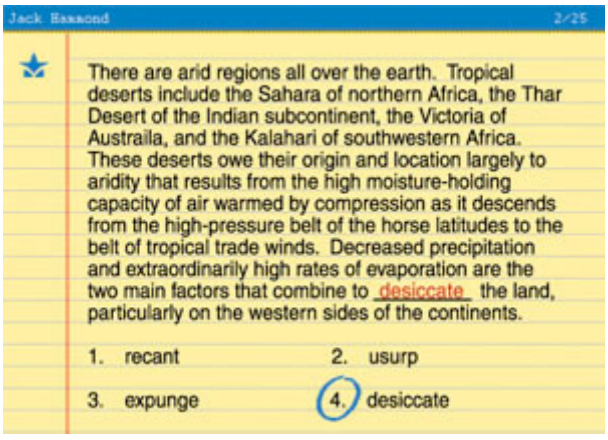


Figure 9: The authentic text questions are much more difficult than the vocabulary-in-context questions.

Results from the STAR Reading test showed a range of reading abilities in my two language arts blocks. As is shown in the graph, students' reading comprehension levels ranged from below the first grade reading levels up to and approaching the sixth grade level.

Out of twenty-three students tested, grade levels sixth through eighth grade, only one student was approaching grade level in reading comprehension. The remaining students were anywhere from one-and-a-half to *seven* years below grade level. Seeing these results made it clear that Reading Comprehension was indeed an important issue to address through the intervention.

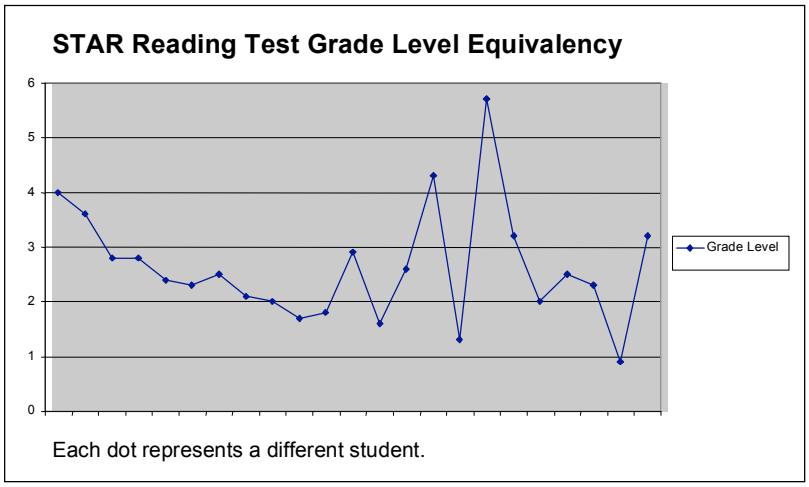


Figure 10: This figure reflects scores from students in both language arts classes, including the target audience.

Still, the STAR results did not pinpoint what part of the reading was difficult for the students. Was it their fluency, accuracy, understanding, or remembering? Does being an English Language Learner play a part in the understanding? How does the combination of a Learning Disability and learning a new language affect the learning process? What made it so difficult for my students to comprehend these passages? I thought that I could ask the students these questions.

Attitude Data

I created two student surveys: The Student Reading Survey and the Visualization Survey. The Student Reading Survey is an informal survey that combines relevant questions from Burke (2000) and Atwell's (1998) reading surveys. The questions included items such as: How do you feel about reading? Do you think you are a good reader? Do you like to read? Is the reading you do for

school too easy, just right, or too hard? In small groups, I read the questions to students so they could understand the question. If students had higher reading levels, they filled out the survey at their own pace.

For the question, "Do you like to read?" I was pleasantly surprised to see that the majority of students, at 63%, liked to read, despite the difficulties they often face. Still, 23% of students indicated that they do not like reading, and another 14% said that they like reading sometimes. These numbers reminded me how important it is to develop an engaging and relevant curriculum.

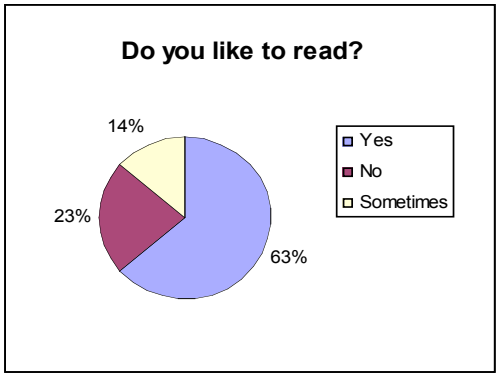


Figure 11: In the SDC classroom, 63% of students stated that they liked to read while 23% did not. Another 14% stated they like to read sometimes.

The second question asked, "Are you a good reader?" The majority of students, at 55%, think of themselves as good readers, despite low achievement scores. Yet, 27% of students do not think they are good readers and another 18% believe they are good readers sometimes. When combined, this makes 45% of students who do not believe in themselves as readers. It is clear that reading is often an unpleasant activity for my students. Most of them struggle in reading and writing, which is why they are in my class to begin with.

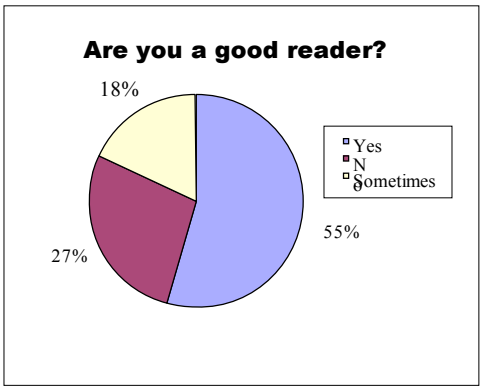


Figure 12: The majority of students think of themselves as good readers at 55%, while the remaining 45% say they are not good readers or only good readers sometimes.

Another question on the Student Reading Survey was "When I am reading and get stuck on a hard part, I…." There were ten strategies available for students to select as strategies that they have used. Of the ten, seven are considered efficient strategies and three are considered inefficient strategies. Students could check as many strategies as

they felt they actively used. Of the selections made, the three inefficient strategies were in the top five most selected strategies. The top five strategies chosen were (1) ask others for help (inefficient), (2) skip the hard part and come back to it later (inefficient), (3) try to put it into my own words (efficient), (4) look at the pictures (efficient/inefficient) and re-read silently (efficient), and (5) skip the hard part (inefficient).

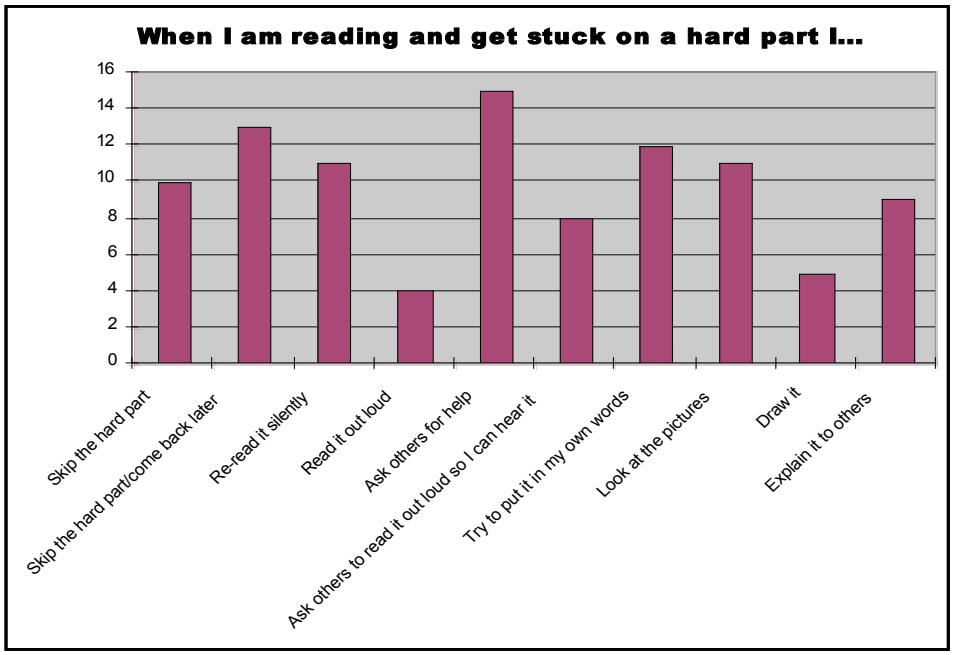


Figure13: Students were able to choose more than one answer to the question. Many students choose two or more answers for most often used strategies when they are stuck in their reading.

The third most popular strategy surprised me: "try to put it in my own words." It surprised me because when I observe my students read, they primarily struggle with one of two things: decoding properly (usually due to auditory processing or visual processing disorders possibly in combination with English Language Development) or understanding/ comprehending what they are reading (usually due to language disorders, short-term memory problems, mental retardation possibly in combination with English Language Development). If a person incorrectly decodes the words, it would be difficult to put the passage into your own words and retain proper meaning. Conversely, if the words are decoded correctly, but the person does not know what the passage means, it is impossible to put the passage into your own words. In order to put something into your own words, a person must first decode most of the passage correctly, and then explore the possible meanings of the unknown words through context clues or finding

synonyms. Armed with this information, the readers can then return to the passage and replace the unknown words with familiar words, or as they survey indicated, "my own words." Some possible explanations for why my students may have selected this option are (a) my students actually use this strategy but I do not fully comprehend exactly *how* they use the strategy, (b) they know it is a strategy they *should* be using so they selected it, (c) the students selected it without fully understanding what it was they were checking. Clearly, my students use many strategies when they are stuck in their reading. Many of the strategies, however, are inefficient or require help from others to help the students understand what they are reading.

The question that impacted me the most on the Student Reading Survey was "If you could fix two things about your reading, what would you choose?" Students chose two things, and then numbered them in order of importance. Students chose from the following options: *reading faster*, *saying words correctly*, *understanding better*, and *remembering more*. Out of 25 students, *understanding better* was selected 14 times and *reading faster* was selected 11 times, with s*aying words correctly* and *understanding more* tied at 10 times.

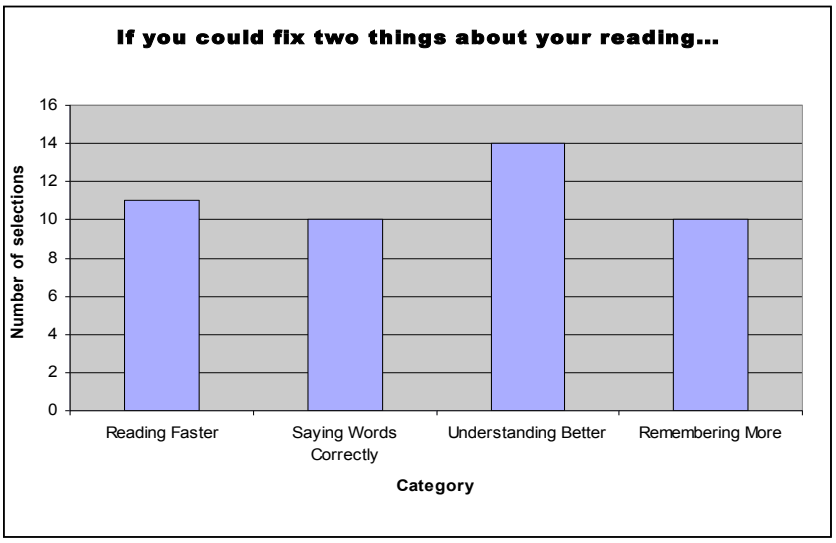


Figure 14: Twenty five students selected two categories in which they would like to improve. Students stated that they would like to Understand More 14 times, they stated that they would like to Read Faster 11 times, and they stated that they would like to Say Word Correctly and Remember More 10 times.

Although this data may not seem significant since the categories were somewhat equally distributed, I know my students and their strengths and weaknesses. Those students who have wonderful comprehension and understanding, but struggle to decode words (dyslexia) selected the first two categories. Those

students who decode wonderfully but have difficulty remembering or understanding (hyperlexia) selected the last two categories. When I looked at each category to see if my current curriculum was serving my students' choices, I was providing curriculum to help them read faster (Read Naturally) and say words correctly (SRA). Still, helping my students understand more was noticeably absent from my curriculum.

After reading responses from the Student Reading Survey, I had additional questions for my students. I was aware of students who had difficulty comprehending because of decoding issues; I had tested each student using the SRA Decoding and Phonics test. However, I was unclear as to why students who had less trouble decoding had so *much* trouble comprehending. This led me to a train of thought that meandered through my curriculum, my experiences, and my observations with my students for the first two months of school. One of my eighth grade students scored at the tenth grade level in decoding; however, his memory was extremely weak even seconds after reading, and his comprehension remained at the third grade level. It seemed so strange to me to have such a disparity. Another student who seems lucid in conversation, and focused when decoding passages aloud, would stare at the ceiling when asked the most basic fact-finding questions (e.g., if he read, "the buildings were black and grey that day," I would ask, "What color were the buildings?" and he would not be able to answer without looking in the text). My train of thought continued: Was understanding difficult because the students were still developing the vocabulary to understand the language? Was it difficult because they had no memory of the vocabulary they had learned? Was it difficult because they could not hold their attention to the topic long enough to make meaning? Or was it difficult because the students were not creating images (as I did with the poems) to hold onto.

I developed an additional survey, The Visualization Survey, to find answers to these questions. The questions specifically asked students to state what they see in their brain when reading. Students could choose whether they saw *words*, *pictures,* or *movies* and select a grade for when

or how they saw these things including 'all the time,' 'sometimes,' or 'never.' Results from the survey indicated that many students did not visualize when they read, were unsure if they visualized, or indicated that their visualizing was weak. Although there were some selections for visualizing pictures or movies, most of the selections showed that students believed they saw words and letters.

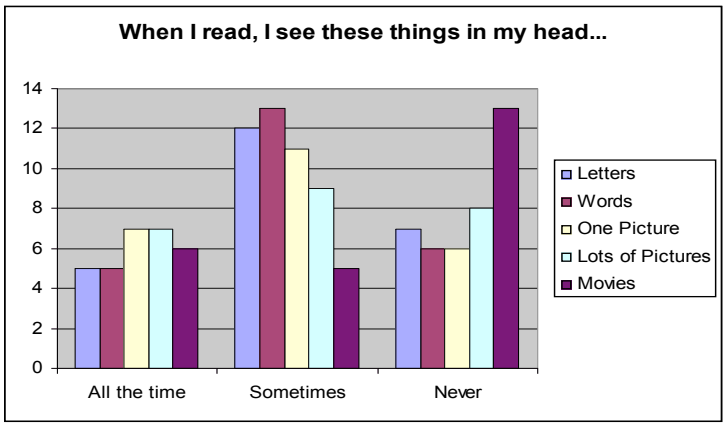


Figure 15: Results from the Visualization Survey show that many students never see imagery, whether they are pictures or movies. Twenty-three students responded to the survey.

Not many strong readers visualize words or letters in their heads when they are reading. In my own experience, I see letters in my head only when I am trying to spell a word. According to Bell (1991b), strong readers create "mind movies," translating the words into actions inside the brain.

The next question on the Visualization Survey was prompted from the Student Reading Survey, and the students' request to *understand more*. I asked students what made understanding their reading so difficult: (a) knowing how to say words right, (b) knowing what words mean, (c) knowing what sentences mean, (d) knowing who is talking in the story, (e) relating what I read to what I know. Students had the most difficulty with knowing what words meant. I wondered if Visualizing and Verbalizing could help with this. If students are given a word to read, and given visual stimuli to match the word, would the word be more readily remembered and understood?

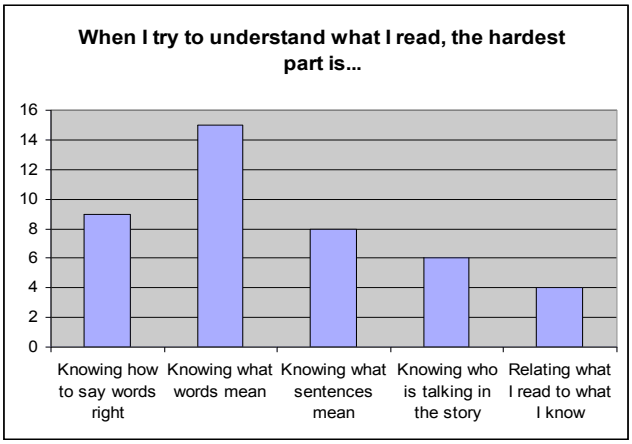


Figure 16: The graph above shows that students struggle the most with knowing what words mean. Students who also struggle with decoding would naturally have difficulty knowing what words mean, because the words they are seeing may not match the words on the page.

The third question on the Visualization Survey asked students what made reading so difficult to remember: (a) remembering the sounds, (b) remembering the words, (c) remembering the people I the story, (d) remembering what happened, (e) remembering why I am reading. Students noted remembering the words and remembering what is happening in the story were most difficult for them. I wondered, if a student were able to build understanding of words through visualization, would they have an easier time remembering the words they read?

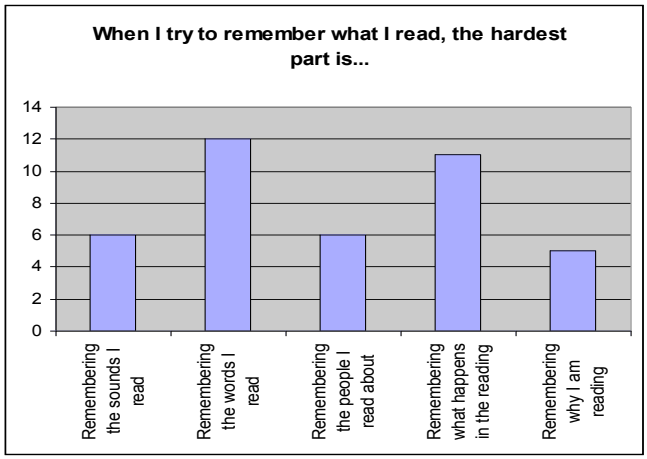


Figure 17: The graph above shows that students struggle the most with remembering details and the plot in the stories and books they read.

It is hoped that the intervention using imagery would give the students new, more effective strategies to use when reading. These new strategies would replace the inefficient strategies that students currently use when they are reading. If students begin to create strong images for the words they read, they may have a deeper understanding of story sequences, characters, and possibly vocabulary. Once they are able to understand, they may also begin to remember.

PART II: THE INTERVENTION

Description of the Intervention and Overview

The intervention began with the collection of pre-intervention data including the aforementioned preliminary data not used in this analysis, STAR Reading test achievement data, Student Reading Survey results, and the Visualization Survey results.

Based upon student responses to the Visualization Survey, I grouped students into three categories: strong visualizers, medium visualizers, and weak visualizers. The intervention plan started

on Monday, December 5, 2005. Each day of class, students rotated through 20-minute centers. There were approximately four to six students per group. The sessions followed the Visualizing and Verbalizing manual as indicated for small group work. The following chart shows a summary of the intervention and data collection procedures.

VISUALIZING AND VERBALIZING FLOW CHART	VISUALIZING AND VERBALIZING TIMELINE	VISUALIZING AND VERBALIZING DATA
Climate	**December 5, 2005**	**Pre-intervention achievement and attitude data collected**
Picture to Picture (what, size, color)	**December 6, 2005**	**Observational data collected**
Picture to Picture (what, size, color, number, shape, where)	**December 8, 2005**	**Observational data collected**
Picture to Picture (gross and fine structure words)	**December 9, 2005**	**Observational data collected**
Object Imaging	**December 12, 2005**	**Observational data collected**
Personal Imaging	**December 12, 2005**	**Observational data collected**
Known Noun Imaging/Word Imaging	**December 13, 14, 15, 2005**	**Observational data collected**
Fantasy Imaging	**December 14, 15, 2005**	**Observational data collected**
Single Sentence Imaging	**December 13, 14, 15, 2005**	**Observational data collected**
Sentence by Sentence Imaging	**January 9-20, 2006**	**Observational data collected**
(from oral language - teacher reads)		
		Post-intervention achievement and attitude data collected

Figure 18: This overview shows that some sessions only lasted a day or part of a day, while other parts lasted two weeks.

Climate - December 5, 2005

The first session began with setting the *Climate*, or helping students understand the purpose of the intervention (Bell, 1991b). I drew pictures of the human brain and the way it works. I talked

about the left hemisphere and showed students that this part of the brain is used to talk or verbalize. Students touched that side of their head as a kinesthetic way to remember it. I then pointed to the right side of the brain and explained that this is the side of the brain used to see pictures and be creative. Students touched that side of their head as a kinesthetic way to remember it. I explained to the students that we want both parts of our brain to work together. Students touched both sides as a way to remember it. When our brain does this, we can learn a lot more. It was also important for me to talk to the students about why reading is difficult at times. During the *Climate*, I drew a picture of a student and a word coming in one ear and going out the other ear. I asked students if it is hard to remember the words they read sometimes. Many students smiled, nodded, and laughed. Others looked around the room to see what other students were saying. I explained that the reason the words are hard to remember is that they escape out of our ears. The only way to make them stay in our brain is to change the words into pictures. The pictures are too big to fit out of our ears so they stay in our brain. This description is all part of Bell's program, and although it may seem simplistic, it worked remarkably well to help my students understand what we were doing and to reduce their fears and anxieties. Many students noticeably relaxed their shoulders and were excited to begin.

Picture to Picture - December 6, 8, 9, 2005

Immediately after the *Climate*, I went straight into *Picture to Picture*. The students are given a simple color picture that the teacher does not see. The students are asked to describe the picture to the teacher. With their words, the teacher should be able to create a picture in her own mind. Then the teacher verbalizes the picture in her mind and the students check to make sure it matches. I modeled this process to the students by drawing a picture of them holding a picture and their words coming out. I then drew a picture of the teacher making a picture in her mind.

To guide the students in being more descriptive and detailed, this session introduces structure words. These words remind the student what aspects of the picture they should be

describing. Bell (1991b) called the first six describing words "structure words" because they are the broadest and must be used to begin imaging. The words are (1) what, (2) size, (3) color, (4) number, (5) shape, (6) where (Bell, 1991b). These words are written on bright note cards and are placed face up on the desk during the session.

The first time the students tried to describe a picture took a long time because they somehow felt the picture should be a secret and interpreted this activity as a sort of guessing game. When I realized this, I made it clear that they should be accurate in their descriptions and give me all the details they could so that my image would match what they saw. In addition, it took many students a long time to realize that little things were important. They often generalized like "this is a picture of a girl." I would have to question them further to get more detail. For example, I might ask, "What does normal mean? I picture a girl that looks like me." The students would laugh and say, "No, she is little." Bell (1991b) often encourages the teacher to ask ridiculous questions to provide contrast for the students. In response to the little girl, I would say, "Oh! I see a little girl as big as my thumb. She is sitting in my pocket!" This worked particularly well for Mandy, Fernando, and Catherine who are English Learners. Oftentimes, I could tell that they were imaging (by their eyes shifting to the ceiling and by their gestures), but they had difficulty finding the words to describe what they were seeing. Or the words they used to describe what they saw were too vague ("I see a dog walking"). When I would question them with choice and contrast, I would notice their reaction immediately. When they heard choices that were foreign to their picture, their heads would move back in surprise, their eyes would open wide, and their eyebrows would furrow. They would say "No!" and then have a beginning point (or vocabulary) with which to give more detail on their actual image. Differentiating between students who struggle with verbalizing and students who cannot visualize is the key to making this curriculum a successful and appropriately challenging program for the students.

Watching student reactions prompted me to create a checklist that would allow me to track student responses and behavior during the sessions. Students were rated on the amount of questioning needed to describe the picture. If a lot of prompting and questions were needed (e.g., the student was not noticing details or using enough descriptive words), the student was rated as a 'poor' verbalizer. If the student was very descriptive, they were rated as a 'fluent' verbalizer.

It is important to note that this program was designed to use with students one-on-one. However, Bell (1991b) describes ways the program can be used with small groups. Due to the nature of my class, I was able to implement the program in the small group environment and a one-on-one environment. There is a possibility that the sessions in the group environment may have been less engaging to students than when they were the only student expected to respond.

The *Picture to Picture* sessions continued until the students demonstrated mastery at covering all of the structure words without questioning. According to Bell (1991b), there is no specific timeline, but rather, the teacher must monitor student progress. If progress is made, it is more important that the sessions stay lively and that the students remain engaged, rather than making sure every step is covered. We spent three sessions on *Picture to Picture* with some modifications. The first session introduced only half of the gross structure words. The second session used all of the gross structure words. The third session introduced the additional six descriptor words that Bell (191b) calls "Fine Structure Words": movement, mood, background, perspective, when, and sound (Bell, 1991b). By the end of the third session, students were able to answer most of the gross structure words and some of the fine structure words without being prompted.

Object Imaging - December 12, 2005

After *Picture to Picture* was completed with about 80% accuracy, Bell (1991b) suggests the students begin *Word Imaging,* creating an image for a specific word. These sessions are supposed to begin with a word that is known or personal to the student, yet simple to describe (like apple).

However, in my intervention, I began *Word Imaging* by having students visualize an object from the room. Bell (1991b) suggests this step when working with students who have language disorders, which many of my students have. I found a yellow, teddy bear-shaped water bottle in the room and passed it around the group. Students could feel it, move it, smell it, and look at it. We also discussed the colors and the purpose of the object. Then I hid the object below the table and asked students to describe the object to me, of course, using the structure words. This turned out to be harder for my students than I expected because many of them could not hold the image in their head for very long. We talked about how some people have images that are strong and bright and some people have dim images. Some people have images that are strong at first and then they start to fade. Students began to discuss amongst themselves the types of images they were seeing and there was clearly a range.

Personal Imaging - December 12, 2005

After *Object Imaging*, we moved into *Personal Imaging*. This occurs when the student thinks of a small object at home. Then they need to describe it to the group. During this session, two of my students were absent. I was left with one student. We had an excellent session and I was better able to track her verbalizations. This student was an English Language Learner and often used a strong accent in her English making her difficult to understand. I soon discovered that she was visualizing and verbalizing very well; it was easier to notice working with her one-on-one. She described her favorite stuffed animal to me and the next day she brought it in for me to see. She did an excellent job of describing the animal because it accurately reflected how she described it.

Word Imaging - December 13, 14, 15, 2005

After *Personal Imaging*, I asked students to picture specific, non-personal things such as a clown, apple, or airplane. This is the essence of *Known-Noun Imaging* or *Word Imaging*. I found that

when I used food words, students responded with more details and excitement. When I used non-food words like chair or clown, the excitement and interest was lost.

In one of the *Word Imaging* sessions, I asked a Hispanic student to describe a banana split. She literally sat mute, utterly frustrated. I was also feeling frustrated and none of the questions I asked prompted her to state what she saw (or was not seeing). She did not even answer with a yes or no. I then gave her a choice of different foods to describe: a Snickers bar, nachos, or a hamburger. The student picked the third option. After about two more minutes of no verbalizing and my asking questions, I noticed the student looking up at the ceiling. This was my clue that she *was* seeing the pictures, but just could not put them into words. This made me remember Jiménez's (1994) study on LEP students. Oftentimes the language transfer process was slow and difficult because students may know the words in their native language, but have difficulty translating them into English (Jiménez, 1994). As soon as I realized this, I turned it into a game and made the other students in the group try to guess what she was seeing. They started telling their versions of the hamburger (it is big and square and….). The mute student immediately began to correct them. "No!" she would scream. "The hamburger is round!"

In a different session, a Filipino student with a Language Disability had difficulty verbalizing a banana split because he did not know what it was. I asked him absurd questions (e.g., was the ice cream throw-up flavored?) and he would just shrug his shoulders and say, "I don't know." Thinking back to Drucker's (2003) article, I remembered how important it was to find culturally relevant information to engage a student's background knowledge. Finally, I asked him what his favorite food was, and he named a Tagalog dish I had never heard of. I told him that he should describe the dish to me. We ended up in a two-minute conversation about a restaurant where he goes to get the dish and how the restaurant has wedding cakes in the front. I could not picture a restaurant with wedding cakes in the front, so I did not really believe the student was imaging at first. Then another student

in the group heard a cue from the Filipino student that made him recognize the place. The second student was a better verbalizer and explained that the restaurant was more of a deli/bakery. With my image becoming stronger, I was able to ask questions of choice and contrast to the Filipino student. All through this discussion, this student was looking away and then back at me, up at the ceiling and back at me. I had to ask many questions to get detail, but he *was* imaging!

Single Sentence Imaging - December 13, 14, 15, 2005

Word Imaging is followed by *Single Sentence Imaging*. This portion of the intervention requires that the student have one entire image for a series of words or actions. This can be difficult because oftentimes students will create one picture for each word of the sentence. The sentences start simple, such as "The cat is under the chair," followed by appropriate questioning (what color, what size, etc.) (Bell, 1991b). The instructor can build upon these simple sentences if necessary for practice (e.g., "The cat is under the chair with a furry, grey mouse"). If students are still struggling, they can look at the sentence printed and underline the imagery words. Bell concedes that *Single Sentence Imaging* can be skipped for strong visualizers; however, Bell notes that this step is imperative for language-disordered students because the process helps to teach imagery. I began to use *Single Sentence Imaging,* but only for one or two sessions because I could tell that the energy was waning. Winter break was approaching and students were losing focus.

Sentence by Sentence Imaging - January 9-20, 2006

The next step is the most critical, and is the basis of the Visualizing and Verbalizing Program. It is the *Sentence by Sentence Imaging*. In these sessions, students begin to create an "imaged gestalt" (or whole image) for three to four sentences. In other words, these sessions teach students to begin seeing pictures for simple paragraphs. This portion of the intervention began after the winter break, during which I restructured the groups. I went back to two larger groups of six to seven students. In my group, students were reading silently while I rotated around the table working

with students one-on-one. It was important to me that I was particularly observant of each student's eye movements, gestures, and word choice to see if they were truly visualizing. I felt that one-on-one sessions would allow more depth of conversations and provide me with more-accurate observations. Although I was not able to complete as many sessions with each student before the intervention ended, my one-on-one sessions were extremely successful.

During *Sentence by Sentence Imaging,* I introduced a new procedure using colored squares. The session starts with the teacher reading one sentence. The student responds by putting a colored square out on the table to "anchor the sentence image" (Bell, 1991b). Then the student goes through the structure words to create a strong image for this first sentence. When the first image is verbalized, the teacher reads the next sentence. The student puts another colored square on the table to represent the image. After the entire paragraph is finished, imaging then verbalizing, the student taps each colored square and quickly notes the pictures that each square represents. Bell (1991b) calls this a "picture summary." The colored cards are then taken away and the students give a traditional summary of words, using the images they created in the session. Bell (1991b) calls this a "word summary." According to the California Standards for Language Arts, eighth graders should be able to "clarify an understanding of texts by creating outlines [and] summaries, or reports" as well as "compare the original text to a summary to determine whether the summary accurately captures the main ideas, includes critical details, and conveys the underlying meaning" (California State Board of Education, 1997). Thus, creating these summaries was not only important to the intervention to demonstrate visualization and memory, but also directly applicable to grade-level expectations.

I was able to complete four *Sentence by Sentence Imaging* sessions with each target student. Ideally, Bell writes that students should do *Sentence by Sentence Imaging* using a variety of input methods: listening, reading aloud, and reading silently. The four sessions I completed included only listening since I wanted to observe the students' input capabilities and instruct them on the

procedures without them having to worry about decoding. Two students (one target student and one non-target student) struggled with creating images and responding to questioning, but otherwise, most of the students were successful in creating images. By the end, most were giving word summaries and creating titles for these small stories so quickly and easily, I was surprised how well the program worked. When reading longer stories in class, most of my students did not even know what a summary was; when writing stories, they often became confused between the title and the topic sentences.

Overall, the entire intervention lasted five weeks. In December, before the Winter Break, I was able to complete eight total sessions including the *Climate, Picture to Picture*, and *Word Imaging*. In January, I was able to complete eight total sessions that focused solely on *Sentence by Sentence Imaging*. As I mentioned before, I had more success with students when I worked with students one-on-one, which meant that each student had fewer sessions than I initially had planned.

Observation Data/In-the-Midst Data

At the beginning of the intervention, students began with the *Picture to Picture* portion of the lessons. Observations of each student and their reactions to the lessons were recorded on a checklist. It was noted whether some of the Structure Words were used or whether all the Structure Words were used. It was also noted whether students needed "a lot" of questioning, "some" questioning, or "no" questioning in order to describe an image or picture. Lastly, I observed whether the students' oral descriptions were *poor*, *okay*, or *fluent*.

In the beginning, all of the target students needed "a lot" of questioning. They were becoming accustomed to the idea that I needed more detail in order to see the same thing they were seeing. Some students were able to verbalize better than other students were; that is, the words they used to describe the pictures were accurate and detailed enough to help me see the image in my own

IN THE MIDST DATA - Picture to Picture									
		Session 1		Session 2		Session 3		Session 4	
	Grade	Level of Questioning	Ability to Verbalize	Level of Questioning	Ability to Verbalize	Level of Questioning	Ability to Verbalize	Level of Questioning	Ability to Verbalize
Mandy	6	1	2	1	1	2	2	1	1
Catherine	6	1	1	1	1	1	1	1	1
Ronald	7	1	1	2	2	1	1	1	1
Junior	7	1	2	1	2	3	2	2	2
Fernando	8	1	1	1	1	2	2	2	2
Aisha	8	1	2	2	2	3	3	2	2

KEY		
Level of Questioning	Ability to Verbalize	Rating
None	Fluent	3
Some	Okay	2
Lots	Poor	1

Figure 19: In the initial sessions, all students needed a lot of questioning to achieve detailed verbalizations of what they saw. By the third session, only two students needed intense questioning to achieve detailed verbalizations; the other four students were able to include important details without as much questioning.

mind. Students who were labeled poor verbalizers often times could not find the words to describe their picture. They paused often, or needed me to ask questions with choices so that they could select the best option instead of coming up with the descriptors themselves. For example, if they told me the picture had a girl and table, I would need to ask, "Is it a young girl, or an older girl? Is she short or tall? Skinny or fat?" From these choices, the poor verbalizers would give enough information for me to create a picture, but this information was not flowing freely from the student. During *Picture to Picture* three of the six students improved in their ability to verbalize, needing less questioning from me. Mandy, Catherine, and Ronald were not consistent in their ability to describe the pictures. In some instances, this may have been due to the content of the pictures rather than the students themselves.

When students began the *Single Sentence Imaging* portion of the intervention, I added an additional component to the observation checklist: the visualization category. In this category, I noted whether the students' imaging process was *poor*, *okay*, *good*, or *excellent*. I determined the rating based upon the way a student responded to my questions. If I asked students a question about their image and their eyes immediately turned to the ceiling, they closed their eyes, or they looked away, I could tell that they were referring to their picture to answer my question (rated *excellent*). If they

would look at me when they were answering the question, or if they stared into space blankly, I could tell that they were looking for something to tell them the answer to the question and they were not imaging (rated *poor*). Students rated poorly would also answer their questions with "I don't know," as if there were a right or wrong answer. Students who rated *okay* or *good* fell in between these two categories. For instance, a student who rated *okay* would look away sometimes, but then other times, they would respond with "I don't know." More often than not, the student would be looking to me for the answer instead of their pictures. The opposite was true for students rated *good.* These students, more often than not, referred to their images to develop an answer, but sometimes they would stare blankly, lose focus, or lose the image. The table below shows the ratings in two categories, verbalizing and visualizing for *Sentence by Sentence.*

IN THE MIDST DATA - Sentence by Sentence									
		Session 1		**Session 2**		**Session 3**		**Session 4**	
	Grade	Verb.	Visual	Verb.	Visual	Verb.	Visual	Verb.	Visual
Mandy	6	2	1	2	2	2	2	2	3
Catherine	6	2	1	2	2	4	3	4	3
Ronald	7	1	1	1	1	1	2	1	2
Junior	7	3	3	2	2	4	4	3	4
Fernando	8	2	2	2	2	4	3	3	3
Aisha	8	3	3	2	2	4	4	4	3

KEY		
Verbalize	**Visualize**	**Rating**
Fluent	Excellent	4
Good	Good	3
Okay	Okay	2
Poor	Poor	1

Figure 20: In the *Sentence by Sentence* sessions, five students were able to verbalize what they saw with only some questioning. One student, Ronald, continued to struggle with verbalizations and visualizations. Still, four of the six students achieved mastery by the third session.

By the time we reached the *Sentence by Sentence,* which is the main element of the Visualizing and Verbalizing program, all six students had improved in their verbalizations. In general, less questioning was needed and students were quicker to discuss the details. They were more familiar with the Structure Words, and used them readily as their own checklist, making sure they had described everything. Four of the six students greatly improved on their verbalizing and became fluent by the end of the intervention, while two still struggled to be fluent with their words.

However, more importantly, all students were able to visualize something by the end of the four sessions. Even if they were not able to describe their image fluently, they were able to answer questions with choice to demonstrate that they were visualizing.

Post-Intervention Outcome Data

Achievement Data

After the intervention ended in January, students were tested again using the STAR Reading Test. According to Renaissance Learning, the test is validated with a nationally representative sample of more than 60,000 students (with high test-retest reliability score of .94) and is highly correlated to state and national standardized tests, including ITBS, CAT, SAT, and TerraNova (Renaissance Learning, 2006). Although the STAR Reading Test is a norm-referenced test that can provide criterion-referenced data, in order for the scores to be aligned with the national standardization of the test, students are given a limited amount of time to answer each question. The computer program allows the administrator to give students additional time if needed and I selected this option for my students. I felt that the pressure of time, combined with their processing and language difficulties, might have negatively affected their ability to finish the test at their best level. Giving extra time is a known accommodation for testing; however, STAR states on their reports that the norm-referenced scores should be interpreted with caution.

The STAR Reading Test was appealing to me because of the high test-retest reliability, allowing my students to take the test multiple times throughout the year. In addition, STAR Reading offers a variety of reports that compare test results across test sessions. I also liked the idea that the test was not affiliated with the Visualizing and Verbalizing curriculum, but still tested reading comprehension.

The STAR Reading Test provided measures in five categories: (1) standard score, (2) grade equivalent, (3) percentile rank, (4) independent reading level, and (5) zone of proximal development. Data showed that five of the six students made gains in their standard scores, grade equivalent, independent reading levels, and zones of proximal development. One student showed reading losses in all four areas. The most interesting data however, was the percentile rank. Despite students showing gains in other areas, the percentile rank decreased for three students, went up for two students, and remained the same for one student.

Comparing Pre- and Post-Achievement Data Results												
Student		Standard Score		Grade Equivalent		Percentile Rank		Independent Reading Level		Zone of Proximal	
		9/16/05	1/24/06	9/16/05	1/24/06	9/16/05	1/24/06	9/16/05	1/24/06	9/16/05	1/24/06
Mandy	6	312	378	2.6	3.2	4	6	2.6	3.2	2.4-3.4	2.7-3.8
Catherine	6	353	271	2.9	2.4	7	2	3.0	2.2	2.5-3.5	2.2-3.2
Ronald	7	312	350	2.6	2.9	3	2	2.6	3.0	2.4-3.4	2.5-3.5
Junior	7	291	359	2.5	3.0	2	3	2.4	3.0	2.3-3.3	2.6-3.6
Fernando	8	173	237	1.8	2.2	1	1	1.1	1.8	1.8-2.8	2.1-3.1
Aisha	8	342	359	2.8	3.0	2	1	2.9	3.0	2.5-3.5	2.6-3.6

Figure 21: The table above compares data for the six intervention students before the intervention, in September, and after the intervention, in January. Results showed growth for five out of six students in four categories.

According to Renaissance Learning, the standard score is calculated on a scale of 0-1400 and is based upon the difficulty of the questions and the number of correct responses. Five out of six students made gains in their Standard Score between tests. Junior made the largest gains at 68 points, followed by Mandy at 66 points and Fernando at 64 points. Ronald showed a 38-point gain while Aisha gained only 17 points. Catherine showed a loss of 82 points.

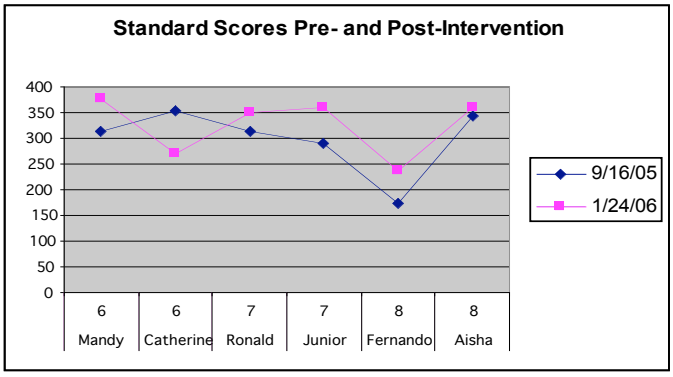


Figure 22: Five students showed gains in their Standard Score between testing sessions. One student's score dropped between sessions.

Renaissance Learning states that the grade equivalent is the "highest level at which a student can read short passages." The grade equivalent shows how a student compares with other students across the nation. Students are given a score between 0.0 and 12.9. All students, except Catherine, made improvements in their grade equivalencies when comparing pre- and post-data. Mandy made the most significant gains at 0.6 of a grade level while Aisha made the least significant gains at 0.2 of a grade levels.

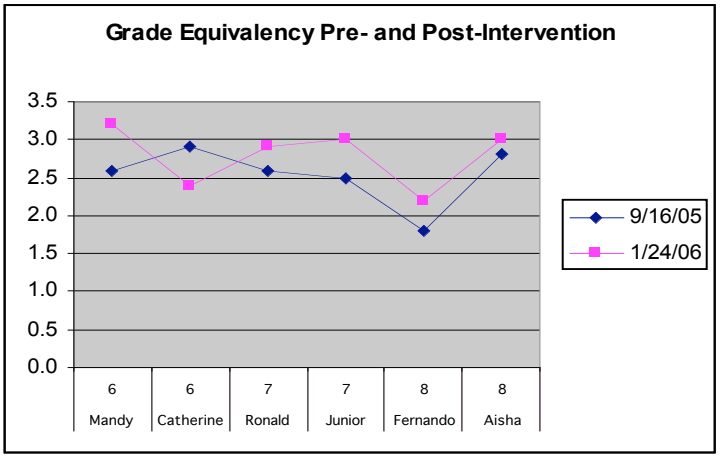


Figure 23: Five of the six students made improvements in their grade equivalencies.

The independent reading level of students also increased between tests. The independent reading level (IRL) is the level where students can read accurately at 80% or better. Students are categorized with the following ratings: Pre-Primer (PP), Primer (P), grades 1-12, PS or Independent. Students increased anywhere from 0.1 to 0.8 independent reading levels between tests. Mandy made the most significant gains at 0.6 of a grade level while Aisha made the least significant gains at 0.1 of a grade level.

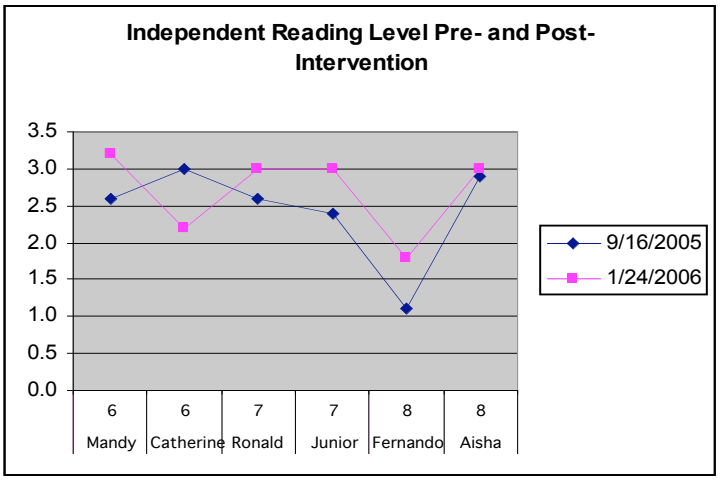


Figure 24: Five out of the six students made gains in their independent reading level. One student showed a decrease from 3.0 grade level to just over 2.0.

The percentile rank is calculated differently depending on the student's age. For example, the beginning of a student's sixth grade year would not be measured by the same standards as a student

tested in the fourth month of their sixth grade year. In order to calculate the percentile rank, which is an ordinal score, students are compared with other students on a national level, who are at the same grade level. The scores range from 1-99. A score of 86 means that the student scored better than 86% of students at the same grade level. STAR Reader showed that only half of the students improved while the other half showed no gains or regressions in their percentile ranks. Mandy made the largest gains in percentile rank from the fourth percentile to the sixth percentile. Junior and Aisha each gained one percentile point each.

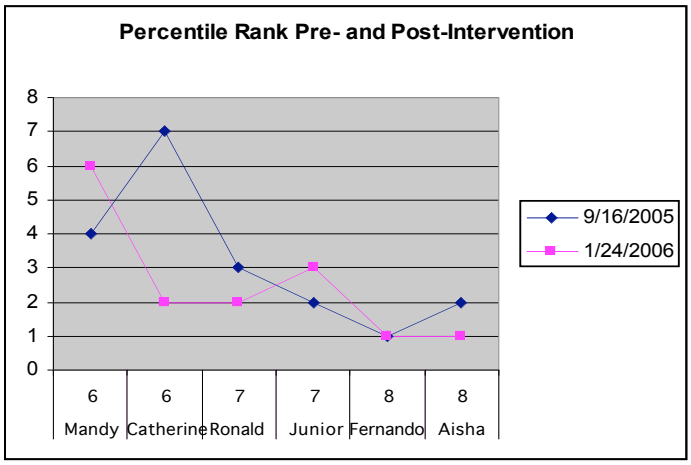


Figure 25: Interestingly enough, only two students showed gains in their Percentile Rank. Three students showed losses, and one student's score remained constant.

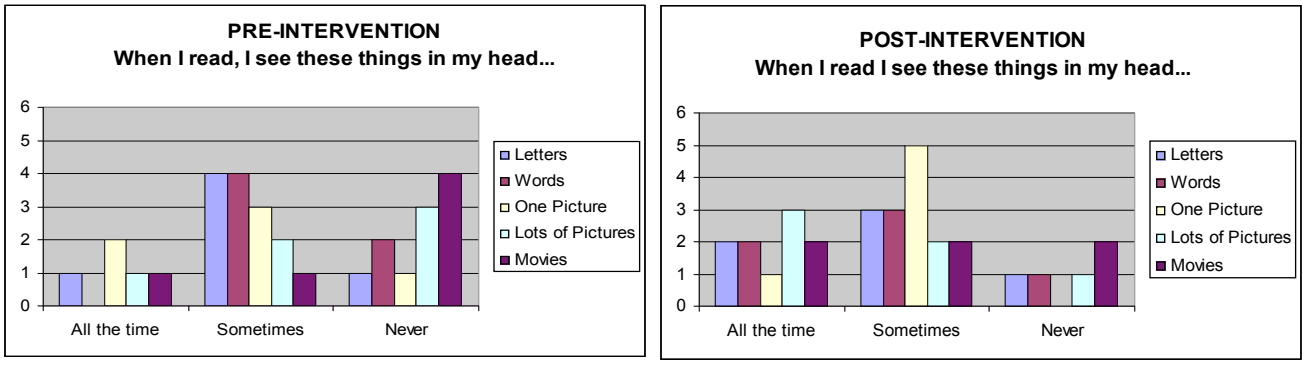
Attitude Data

After the intervention ended in January, target students were given both the Student Reading Survey and the Visualization Survey. Results from the Student Reading Survey, a more general survey about reading attitudes and interests, did not change much from the pre-intervention test session to the post-intervention test session. One notable change was in the pre-intervention test session, three of the six students claimed to like reading while the other three claimed to like it sometimes or not at all. After the intervention was completed, five students circled that they liked to read and one student noted that she liked reading sometimes.

Do you like reading?		
	Pre-	**Post-**
Mandy	Yes	Yes
Catherine	Yes	Sometimes
Ronald	No	Yes
Jr.	Yes	Yes
Fernando	Sometimes	Yes
Aisha	Sometimes	Yes

Figure 26: Before the intervention, three students claimed to like reading, while the other three liked reading sometimes or never. After the intervention, five out of six students claimed to like reading.

More interesting were the results from the Visualization Survey. Students were asked what they saw in their heads when they read. Before the intervention, students were not fully aware of what they saw in their heads. Five students claimed to see *letters* in their head "sometimes" while three students "never" saw *lots of pictures* in their heads. After the intervention, students were more likely to select that they saw *pictures* and *movies* in their heads. All six students saw *one picture* either "all the time" or "sometimes." Five of the six students saw *lots of pictures* "all the time" or "sometimes."



Figures 27 & 28: Before the intervention, students were very unsure about what they saw in their heads when they read. Few students felt confident enough to select "all the time" in any category. After the intervention, students seemed much more confident in what they saw in their heads when they read. Half of the students now claim to see lots of pictures "All of the time."

Before the intervention, four students said that they "never" saw *movies*. After the intervention, only two students said that they "never" saw *movies*. In general, the survey results showed that students selected the "never" category more often before the intervention (11 selections) and less often after the intervention (5 selections). Students also selected the "all the time" category more often after the intervention (10 selections) when compared to pre-intervention results (5 selections).

Data Analysis and Findings

Achievement Data

In order to look at the achievement data objectively, I first collected the pre-intervention and post-intervention achievement data and typed it into an Excel spreadsheet. Luckily, STAR Reading

provided a plethora of data and multiple measures with which to document student growth. The STAR Reading test provided me with standard scores, grade equivalency, percentile rank, independent reading level, and zone of proximal development. Seeing this data in one place for the six target students allowed me to see patterns in growth and patterns in loss. I saw that five of the six students made gains in standard score, grade equivalent, independent reading level, and zone of proximal development, and one student showed losses. A typical student is expected to gain 1.0 grade level per year or a little more than one months' progress every month. The results showing that half of the students made between 0.4-0.6 of a-grade-level gains in five months seems to be equivalent to what a typical student may achieve. From this perspective, the intervention was a success for these students, allowing them to progress at an average rate. Considering that these students are already three-six years below grade level, this progress can be seen as a great success.

Achievement Data Statistical Measurement					
Student		Grade Equivalent	Percentile Rank	Independent Reading Level	Zone of Proximal Development
		Points gained	Points gained	Points gained	Point range gained
Mandy	6	0.6	2	0.6	0.3-0.4
Catherine	6	-0.5	-5	-0.8	-0.3-0.2
Ronald	7	0.3	-1	0.4	0.1-0.1
Junior	7	0.5	1	0.4	0.3-0.3
Fernando	8	0.4	0	0.7	0.3-0.3
Aisha	8	0.2	-1	0.1	0.1-0.1

Figure 29: All students show some growth except Catherine. On average, students are expected to grow one grade level per year. Students were tested in September and January, a total of five months.

Still, Aisha and Ronald only gained 0.2 and 0.3 of a grade level respectively, which is below average, while Catherine actually dropped half a grade level. For the first two students, the intervention could still be considered a success since any gain continues to bring the students closer to their age-level peers. By measurement of the achievement data, the intervention was not successful for Catherine at all.

In addition, I saw that only two students had increased percentile rank scores, one student's score remained the same, and the final three showed losses. Looking at the percentile rank, I also

noticed that the older students made less significant gains in percentile rank than younger students. This may be because the percentile rank compares students with continually growing peers who are not only average but, oftentimes, above average in their skills. It seems with percentile rank as a measure, the gap continues to grow wider as the students grow older. Considering the target audience is already below the 10th percentile (considered below average) for their age and grade level, the students need interventions that produce more drastic results than what is shown here. Still, it is important to have high expectations but remain realistic about the amount of growth that can be made in a traditional academic year. It is also important to note that percentile rank is just one type of score among many and should not be the only way to measure student growth, especially those students with special needs.

I believe that the increased level of comprehension shown by the growth in grade equivalent, independent reading level, and zone of proximal development could be attributed to the Visualizing and Verbalizing intervention because this program taught students how to use imagery as a comprehension strategy. The intervention also required students to ask themselves questions when reading to clarify their brain images for themselves. This kind of questioning has been shown to increase reading comprehension (Padrón, 1992). Still, it is not clear that this growth is directly correlated with the intervention specifically and solely. Students were continuing to develop normally during this time and were continually practicing their reading skills using other curriculums including Read Naturally and SRA Corrective Reading. Increased scores could be attributed to the intervention, normal development, other curriculums, or a combination of factors.

Catherine's lack of progress could be explained with a variety of reasons. First, she was absent a lot during January due to illness, which could have caused a lapse in the consistency of her strategy use. Another reason might be that she was less focused during the post-test. Possibly, the intervention strategies may not have worked for this particular student to comprehend and

remember the way it may have helped other students. Finally, the intervention strategies may not have been directly applicable to the STAR Reading test.

Attitude Data

In order to look at the attitude data objectively, I first collected the pre-intervention Student Reading Surveys and post-intervention Student Reading Surveys. I put the pre- and post-data together in six rows, one for each student and highlighted answers that jumped out at me. From the highlighting, I noticed patterns of change. I recorded this data as tally marks on a separate sheet of paper. I then calculated the change rates for the tallies (either as "no change," "increase," or "decrease"). For those questions that asked students to circle "all the time," "sometimes," or "never," I analyzed whether their answers showed improvement in certain categories (e.g., from never to sometimes, never to all the time, or sometimes to all the time). After I calculated the change, I entered this information into an Excel spreadsheet. I began to create graphs for each of the tally groups; I then looked at each graph to see how the pictorial representation affected my understanding of the change. If the pictorial representation affected me strongly, I went back to the actual data to see if I could more deeply understand where/why the changes occurred.

In the Student Reading Survey, there were some notable changes in data. For the question, "Do you like reading?" Ronald, Fernando, and Aisha changed their responses from uncertainty to certain "yes." Mandy and Junior's responses remained the same, while Catherine changed her response from "yes" to "sometimes." I took this data and categorized the answers as an increase in liking reading (from a no to yes, or a sometimes to yes), a decrease in liking reading (from a yes to sometimes, or a yes to no), or as the same (no change in response). The data showed that three

Do you like reading?		
	Pre-	**Post-**
Mandy	Yes	Yes
Catherine	Yes	Sometimes
Ronald	No	Yes
Jr.	Yes	Yes
Fernando	Sometimes	Yes
Aisha	Sometimes	Yes

students showed an increase in their like of reading, one student showed a decrease in her like of reading, and two students showed no change.

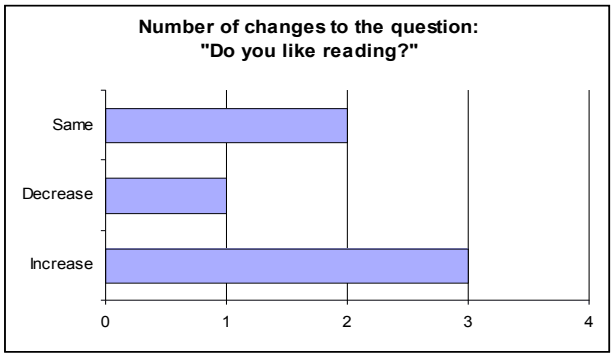


Figure 30: Three students changed their opinion of reading by the end of the intervention, moving from liking reading sometimes or not at all, to liking reading.

For the question, "Are you a good reader?" results were mixed. Junior and Fernando both changed their opinion of themselves from being good readers sometimes to being strong readers. Mandy and Ronald still had the same opinion of themselves after the intervention with Mandy still thinking of herself as a poor reader and Ronald thinking of himself as a strong reader. Catherine again downgraded herself from being a good reader to being a good reader sometimes and so did Aisha. In summary, the target students claim to like reading, but in general do not think of themselves as good readers. These results demonstrate that the target audience is a group of students who are very aware of their own abilities, and yet a group who remains positive throughout many difficulties. If this is the case, what an inspirational group! The intervention with Visualizing and Verbalizing may have changed their opinions on reading, from being a burden or disappointment to being more accessible and purposeful. If this is the case, I consider the intervention a success.

Are you a good reader?		
	Pre-	**Post-**
Mandy	No	No
Catherine	Yes	Sometimes
Ronald	Yes	Yes
Jr.	Sometimes	Yes
Fernando	Sometimes	Yes
Aisha	Sometimes	No

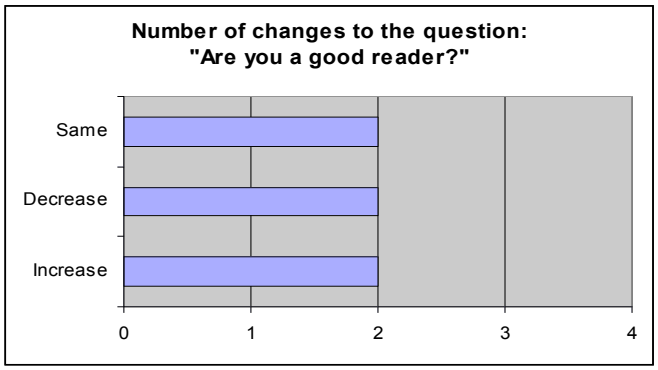


Figure 31: The results for "Are you a good reader?" were mixed. One third of the students made no change in their response. One third changed their response to a decrease in confidence, and one third changed their response to an increase in confidence.

Similar to the Student Reading Survey, I also collected the pre-intervention Visualization Surveys and post-intervention Visualization Surveys and put them together in six rows, one for each student. Since there were only three questions on this survey, I immediately began to tally the responses. For those questions that asked students to circle "all the time," "sometimes," or "never," I analyzed whether their answers showed improvement in certain categories (e.g., from never to sometimes, never to all the time, or sometimes to all the time). It was most pertinent if a student selected "all the time" or "sometimes" in the category of *one picture, lots of pictures,* or *movies*. During the Visualizing and Verbalizing curriculum, we discussed what good readers see in their heads, which are images that can move like movies. Although this was discussed, the visualization process was not forced, nor were students admonished for explaining that they saw *letters* or *words*. Rather, students were praised when they referred to their images to recall parts of a story and student imagery was developed as part of the curriculum.

After I tallied the marks, I entered this information into an Excel spreadsheet. I began to create graphs for each of the tally groups; again, I looked at each graph to see how the pictorial representation affected my understanding of the change. For the question, "When I read, I see these things in my head…." The results were promising. In the *one picture* category, there was a loss of one student seeing it "all the time," but a gain of two students seeing it "sometimes." In the *lots of pictures* category, there was an increase of two students seeing them "all the time" and no change for "sometimes." For the *movies* category, there was a gain of one student seeing movies "all

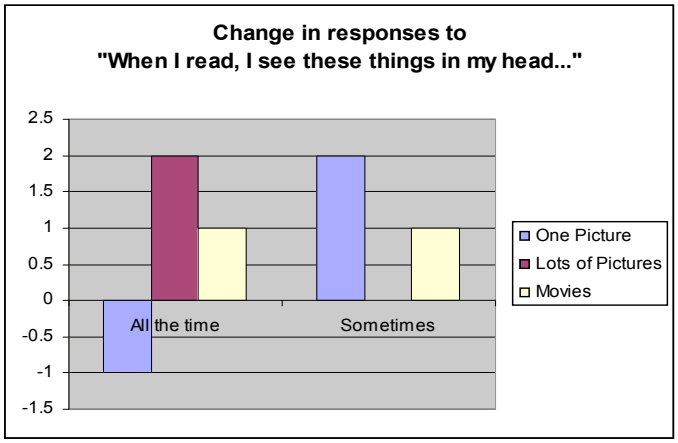


Figure 32: Comparing pre- and post-intervention results, there was a loss of one student who saw pictures, and a gain of students in all other categories.

the time," and a gain of one student seeing them "sometimes." Considering that there were six target students, a six-response increase toward seeing movies and pictures is strong evidence that the students made gains in understanding what they see in their own heads. The increase in responses seems to be a direct result of the intervention, which specifically teaches students to visualize when reading.

Although it is clear that the students are now aware of strategies that good readers use and they are attempting to employ those strategies, there are a few questions. Did the students learn the strategies from the intervention and are now using them? Did the students select these categories because they now know that is what they are supposed to see? Or did the intervention makes the students more aware of what they were already seeing?

PART III: DISCUSSION

Conclusions

Visualization strategies can help special education students remember and understand what they read. During the intervention sessions themselves, every student made gains in their ability to visualize as demonstrated by the observation data. Even Ronald, for whom the visualizing was very difficult, was able to create some simple images by the last session. From these images, students were able to verbalize or recall major details from the small stories. Marzano (2001) states that creating imagery (or as he calls it, nonlinguistic representations) "stimulates and increases activity in the brain…and enhances [students'] understanding of…content." Marzano's (2001) collection of research on nonlinguistic representations directly supports and validates the Visualizing and Verbalizing curriculum theory and practice.

During the Visualizing and Verbalizing sessions, students were creating images by building upon prior knowledge. This prior knowledge was uncovered using questioning and providing the

students with choices in their responses. This knowledge was accessed using kinesthetic measures (acting words out), finding known synonyms, and using pictures from the internet, encyclopedias, and the dictionary. This process made students more aware of what they see in their own heads and gave them techniques to help them remember what they read using imagery and background knowledge. Drucker (2003) reminds us how important schema and background knowledge are to properly scaffolding reading and vocabulary curriculum for LEP students. Visualizing and Verbalizing can be a wonderful tool for this when used properly.

Five of the six students in this intervention were able to improve their reading comprehension scores on the STAR Reading Test anywhere from 0.2 to 0.5 of a grade level after five weeks. These findings are similar to the findings of Truch, who found that using Visualizing and Verbalizing for a group of 66 subjects ranging in age from five to 55 years helped them make significant gains on instant recall questions.

As a side benefit, students also showed growth in their ability to verbalize what they saw in their heads with more detail and certainty. As demonstrated by the observation data, four out of six students were observed as *good* verbalizers by the last two sessions. This skill will be important for public speaking, demonstrating knowledge, and effective social communication. It can also help in brainstorming and beginning the writing process. The verbalizing growth is particularly interesting in that Catherine and Junior (who showed great growth as evidenced by the observation data) also receive speech services for their difficulty in communicating.

After the intervention, students were more likely to state that they see images when they are reading. Seeing images while reading has been shown to increase comprehension (Marzano, 2001). As a side benefit, five of the six students claimed to like reading after the intervention. While the Visualizing and Verbalizing curriculum did not focus on increasing students' enjoyment of reading, it

did focus on helping students achieve mastery in understanding and memory, which makes reading more meaningful.

By the end of the intervention, each of the six families had a meeting with me (or my colleague) regarding specific learning goals for their child. These meetings were scheduled through the IEP process. During the IEP meetings, I discussed student progress and student needs. Based upon this information, the IEP team decided upon learning goals for the coming year using the California State Standards as a guideline. At a minimum, each student was given one reading goal, one writing goal, one math goal, and one life skills goal. Oftentimes students were given more goals in their area of need. In the coming months, I will be sending progress reports to the parents on these new learning goals. By this time next year, we will be meeting with the families again to review the goals that were achieved and those that need more time. Each of the students in this intervention was given goals to increase reading comprehension.

Implications for Teaching

The results from this intervention show that visualizing is a key component to understanding and remembering. Explicitly teaching students to comprehend their reading is vital to their future reading interest and success. I will definitely continue to use the Visualizing and Verbalizing program as one part of my reading curriculum. It has an important place in helping students create a foundation for understanding what they read and gives them effective strategies to use.

The complete Visualizing and Verbalizing program continues to become more complex as readers develop strong imagery during their reading. My intervention stopped at step 5 out of 12 steps. The later steps introduce Higher Order Thinking Skills, Multiple Sentence Imaging, Whole Paragraph Imaging, Paragraph by Paragraph Imaging, Whole Page Imaging, Taking Notes, and

Writing from Visualizing and Verbalizing. Clearly, my intervention merely touched the surface of teaching reading comprehension to special education students.

Possible next steps are to continue with the Visualizing and Verbalizing and including some of the more difficult steps in order to transition students from the scaffolding of the program to real-school experiences such as textbook reading and novel reading. After a few more weeks, I may give the students a chance to apply their new reading comprehension strategies to chapter books through a literature circle format. Using guided practice, teamwork, and discussion may help students transition from the structured format of Visualizing and Verbalizing to more flexible and open types of reading activities. All students can contribute to the visualizing process by describing the pictures they see when they are reading the same book. They can also practice their fluency by reading these books at home as homework, and practice their higher order thinking skills by discussing unknown words, confusing plots, and exciting characters in class. Graphic organizers will be used to help students synthesize information (Marzano, 2001). All aspects of the book will be scaffolded in class, so that students can be successful at home.

In addition to literature circles, it may be important to allow students some variety in their reading and provide opportunities to develop imagery based upon different kinds of writing. Activities may include poems (which I will continue with the morning activity—albeit with more purpose and control), readers' theatre, and read-alouds. Variety, excitement, and opportunities for success will be key to keeping my students' interest and building their growth in reading.

Reflections on the Instructional and Research Experience

Using research as a part of instructional practice is, albeit time consuming, well worth the effort. As with any major life decision (e.g., buying a car, purchasing a home, deciding where to go on vacation, choosing a doctor, applying for a job), doing the appropriate research is vital to the

outcome being successful. The same applies to the teaching profession. There are many companies working hard to earn the district's money by promoting a curriculum that promises results. Just like any marketing campaign, however, sales executives will tell you anything to sell their product. This is why research is so important. The research can tell us whether the program is actually effective and under what circumstances and conditions.

Limitations of this study include a limited period in which students were able to spend practicing the skill. Because students were put into groups of six to seven, and each center only lasted approximately 20 minutes, only two to three students received the *Sentence by Sentence* portion on any given day. In her own research and publications, Bell (1991b) recommends that a Visualizing and Verbalizing intervention occur at least 20 minutes, every day, for a few months, for every student. If I had more time and more adult help in the classroom, I would implement this program as Bell recommends.

Another limitation is that Bell recommends that all students have the opportunity to create images based upon listening, reading aloud, and reading silently. This increases student practice to create images based upon a variety of input. Students with decoding issues theoretically would be most successful when hearing a passage read aloud, moderately successful when reading the passage aloud (because the teacher could correct any word reading errors and guide the student), and least successful when reading silently because the teacher could not correct their word reading errors. Listening to someone read is less difficult than reading silently or reading aloud. It is also less realistic for true educational experiences.

Next, the STAR Reading Test was the only measure of reading comprehension for pre- and post-intervention results. Although the STAR Reading Test is valid and reliable in its own right, it does not track the visualization process or differentiate between decoding errors and true comprehension errors. The cloze method is simply one way to test reading comprehension. I am not

aware of a test that directly measures how many images a student is or is not creating nor am I aware of a test that relates the creation of these images to comprehension of passages. More evidence would be gained if a variety of reading comprehension tests were used and results were compared.

Last, this study was also conducted before and after a three-week winter break. According to one study, winter and summer breaks can often put students at risk of falling further behind in their learning (Cooper, et al., 1996). This is especially true for students of lower socio-economic status because fewer enrichment opportunities are available to the students when compared to students from higher socio-economic status (Burkham, et al, 2003). I often take informal polls of my students to ask who has read over the breaks. It is a rarity when my students indicate that they have. This loss of practice time between sessions may have affected the post-data achievement scores of the students. In addition, the initial sessions after break were spent reviewing the program and structure words due to students forgetting the process, thereby losing precious intervention time.

If the intervention had continued for another month and included paragraph imaging, I am curious to know what problems the poor decoders would have had. The amount of decoding required for longer passages is immense and oftentimes the students' focus is on the decoding portion of reading, occupying most of their memory. Would these students, struggling to decode, still have the brainpower and energy to create strong images, ask themselves questions about the images, and then remember them? I may try to discover this by experimenting further with the program over the coming years.

I am overwhelmed by the documentation and the analysis that is required to evaluate such an intervention. On the other hand, I am excited by the results and the interest my students showed in learning a new way of thinking. I feel more confident in my own ability as a teacher and as a teacher researcher. I am excited to research programs that will benefit my students and am looking forward to creating a balanced literacy program accessible to all students.

REFERENCES

Atwell, N. (1998). *In the middle.* (2nd Ed.). Portsmouth, NH: Boynton/Cook Publishers, Inc.

Bell, N. (1991a). Gestalt imagery: A Critical factor in language comprehension. *Annals of Dyslexia*, *41*.

Bell, N. (1991b). *Visualizing and verbalizing: Language comprehension and thinking.* San Luis Obispo, CA: Gander Educational Publishing.

Burke, J. (2000). *Reading reminders: Tools, tips, and techniques*. Portsmouth, NH: Boynton/Cook Heinemann.

Burkham, D., Ready, D., Lee, V., & LoFerfo, L. (2003). Social class differences in summer learning between kindergarten and first grade: Model specification and estimation. *The University of Michigan.*

California State Board of Education. (1997). *English-language arts content standards for California public schools.* Sacramento, CA: Department of Education.

Cooper, H., Nye, B., Charlton, K., Lindsay, J., & Greathouse, S. (1996). The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. *Review of Educational Research, 66(3),* 227-268.

Drucker, M. (2003). What reading teachers should know about ESL learners. *The Reading Teacher, 57(1),* 22-29.

Jiménez, R. (1994). Understanding and promoting the reading comprehension of bilingual students. *Bilingual Research Journal, 18(1&2),* 99-119.

Lindamood, P., Lindamood, P., Bell, N. (2005). Lindamood Bell Learning Processes. [Online service]. Available gopher or http://www.lindamoodbell.com

Hamilton, C. & Shinn, M. (2003). Characteristics of word callers: An Investigation of the accuracy of teachers' judgments of reading comprehension and oral reading skills. *School Psychology Review*, *32(2),* 228-240.

Herrell, A. (2004). *Fifty strategies for teaching English language learners.* Pearson Education, Inc.

Marzano, R.J., Pickering, D.J., Pollock, J.E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Virginia: Association for Supervision & Curriculum Development.

Padrón, Y. (1992). The Effect of strategy instruction on bilingual students' cognitive strategy use in reading. *Bilingual Research Journal, 16(3&4),* 35-51.

Pavio, A. (1990). *Mental representations: A dual coding approach.* (2nd Ed.). New York, NY: Oxford University Press.

REFERENCES

Renaissance Learning, Inc. (2006). Renaissance Learning. [Online service]. Available gopher or http://www.renlearn.com

Truch, S. (1996). Stimulating basic recall in hyperlexic students using the Visualizing/Verbalizing program. Calgary, Canada: *The Reading Foundation.*

Turkeltaub, P., Flowers, L., Verbalis, A., Miranda, M., Gareau, L., & Eden, G. (2004). The Neural basis of hyperlexic case study reading: An fMRI case study. *Neuron, 41,* 11–25.

APPENDICES

2. ATTITUDE DATA SAMPLES

Student Reading Surveys

Pre-intervention

Student Reading Survey - Pre-intervention - Mandy, 6th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ❑ boring
- ■ okay
- ❑ interesting
- ❑ easy
- ❑ just right
- ■ too hard

Check which ones are true for you:

- ❑ Reading is not important.
- ❑ Reading is very important.
- ■ Reading is only important if you need to get a job.

Check which ones are true for you:

- ❑ Reading is more important now than it was years ago.
- ■ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ❑ Skip the hard part
- ■ Skip the hard part and come back to it later
- ❑ I re-read it (silently)
- ❑ I read it out loud
- ■ I ask others for help
- ■ I ask others to read it out loud so I can hear it
- ❑ I try to put it in my own words so I can understand it
- ❑ I look at the pictures to see if I can understand it
- ■ I try to draw it
- ■ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? Yes (No)

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ❑ Reading faster
- ❑ Saying words correctly
- 2 ■ Understanding better
- 1 ■ Remembering more

2

Student Reading Survey - Pre-intervention - Catherine, 6th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☒ okay
- ☐ interesting
- ☐ easy
- ☒ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☒ Reading is very important.
- ☐ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☐ Reading is more important now than it was years ago.
- ☒ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☐ Skip the hard part
- ☒ Skip the hard part and come back to it later
- ☐ I re-read it (silently)
- ☒ I read it out loud
- ☐ I ask others for help
- ☐ I ask others to read it out loud so I can hear it
- ☒ I try to put it in my own words so I can understand it
- ☐ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☒ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? (Yes) No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☐ Reading faster
- ☒ Saying words correctly
- 1 ☒ Understanding better
- ☐ Remembering more

2

Student Reading Survey - Pre-intervention - Ronald, 7th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☑ okay
- ☐ interesting
- ☑ easy
- ☐ just right
- ☐ too hard

Check which ones are true for you:

- ☑ Reading is not important.
- ☐ Reading is very important.
- ☐ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☐ Reading is more important now than it was years ago.
- ☑ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☑ Skip the hard part
- ☐ Skip the hard part and come back to it later
- ☑ I re-read it (silently)
- ☐ I read it out loud
- ☐ I ask others for help
- ☐ I ask others to read it out loud so I can hear it
- ☐ I try to put it in my own words so I can understand it
- ☑ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☐ I explain it to someone else

Do you like to read?	Yes	(No)
Are you a good reader?	(Yes)	No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☐ Reading faster
- ☐ Saying words correctly
- 1 ☑ Understanding better
- 2 ☑ Remembering more

2

Student Reading Survey - Pre-intervention - Junior, 7th grade

Name: Junior _____ Date: 9/30/09

Most of the time, the reading I do for school is:

- ☐ boring
- ☐ okay
- ■ interesting
- ☐ easy
- ■ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ■ Reading is very important.
- ☐ Reading is only important if you need to get a job.

Check which ones are true for you:

- ■ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☐ Skip the hard part
- ☐ Skip the hard part and come back to it later
- ■ I re-read it (silently)
- ☐ I read it out loud
- ■ I ask others for help
- ■ I ask others to read it out loud so I can hear it
- ☐ I try to put it in my own words so I can understand it
- ■ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☐ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? Yes (Sometimes) No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☐ Reading faster
- 2☐ Saying words correctly
- 1☐ Understanding better
- ☐ Remembering more

2

Student Reading Survey - Pre-intervention - Fernando, 8th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☐ okay
- ☒ interesting
- ☐ easy
- ☒ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☐ Reading is very important.
- ☒ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☒ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

1. ☒ Skip the hard part
2. ☐ Skip the hard part and come back to it later
3. ☒ I re-read it (silently)
4. ☐ I read it out loud
5. ☐ I ask others for help
6. ☐ I ask others to read it out loud so I can hear it
7. ☐ I try to put it in my own words so I can understand it
8. ☐ I look at the pictures to see if I can understand it
9. ☐ I try to draw it
10. ☐ I explain it to someone else

Do you like to read? Yes No Sometimes

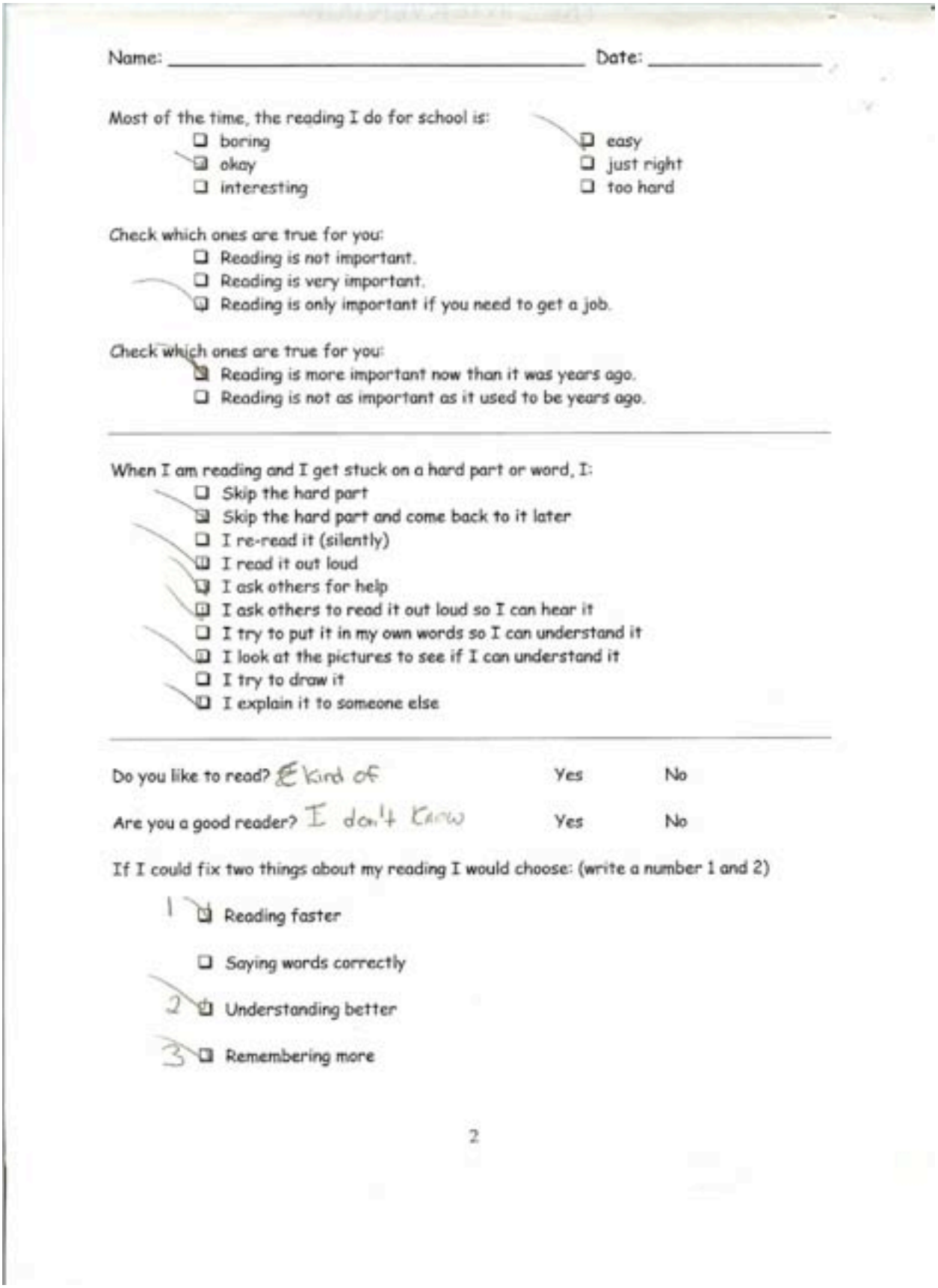
Are you a good reader? Yes No Sometimes

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☒ Reading faster
- ☐ Saying words correctly
- ☐ Understanding better
- ☒ Remembering more

2

Student Reading Survey - Pre-intervention - Aisha, 8th grade



Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☑ okay
- ☐ interesting
- ☑ easy
- ☐ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☐ Reading is very important.
- ☑ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☑ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☐ Skip the hard part
- ☑ Skip the hard part and come back to it later
- ☐ I re-read it (silently)
- ☑ I read it out loud
- ☑ I ask others for help
- ☑ I ask others to read it out loud so I can hear it
- ☐ I try to put it in my own words so I can understand it
- ☑ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☑ I explain it to someone else

Do you like to read? Kind of Yes No

Are you a good reader? I don't Know Yes No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- 1 ☑ Reading faster
- ☐ Saying words correctly
- 2 ☑ Understanding better
- 3 ☐ Remembering more

2

3. ATTITUDE DATA SAMPLES

Student Reading Surveys

Post-intervention

Student Reading Survey - Post-intervention - Mandy, 6th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☐ okay
- ☐ interesting
- ☐ easy
- ☐ just right
- ☑ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☐ Reading is very important.
- ☑ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☑ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☑ Skip the hard part
- ☐ Skip the hard part and come back to it later
- ☐ I re-read it (silently)
- ☐ I read it out loud
- ☑ I ask others for help
- ☐ I ask others to read it out loud so I can hear it
- ☑ I try to put it in my own words so I can understand it
- ☐ I look at the pictures to see if I can understand it
- ☑ I try to draw it
- ☐ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? Yes (No)

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☐ Reading faster
- ☐ Saying words correctly
- ☑ Understanding better
- ☑ Remembering more

2

Student Reading Survey - Post-intervention - Catherine, 6th grade

Name: Catherine _____ Date: 2/1/06

Most of the time, the reading I do for school is:

- ☐ boring
- ☐ okay
- ■ interesting
- ☐ easy
- ☐ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ■ Reading is very important.
- ☐ Reading is only important if you need to get a job.

Check which ones are true for you:

- ■ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☐ Skip the hard part
- ☐ Skip the hard part and come back to it later
- ☐ I re-read it (silently)
- ☐ I read it out loud
- ☐ I ask others for help
- ☐ I ask others to read it out loud so I can hear it
- ■ I try to put it in my own words so I can understand it
- ☐ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☐ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? Sometimes. Yes No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ■ Reading faster
- ■ Saying words correctly
- ☐ Understanding better
- ☐ Remembering more

2

Student Reading Survey - Post-intervention - Ronald, 7th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☒ okay
- ☐ interesting
- ☐ easy
- ☒ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☒ Reading is very important.
- ☐ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☒ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☒ Skip the hard part
- ☐ Skip the hard part and come back to it later
- ☒ I re-read it (silently)
- ☐ I read it out loud
- ☒ I ask others for help
- ☐ I ask others to read it out loud so I can hear it
- ☒ I try to put it in my own words so I can understand it
- ☒ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☐ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? Yes No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☐ Reading faster
- ☒ Saying words correctly
- ☐ Understanding better
- ☒ Remembering more

2

Student Reading Survey - Post-intervention - Junior, 7th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☒ okay
- ☐ interesting
- ☐ easy
- ☒ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☒ Reading is very important.
- ☐ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☒ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☒ Skip the hard part
- ☒ Skip the hard part and come back to it later
- ☐ I re-read it (silently)
- ☐ I read it out loud
- ☒ I ask others for help
- ☒ I ask others to read it out loud so I can hear it
- ☐ I try to put it in my own words so I can understand it
- ☒ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☐ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? (Yes) No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☐ Reading faster
- ☐ Saying words correctly
- ☒ Understanding better
- ☒ Remembering more

2

Student Reading Survey - Post-intervention - Fernando, 8th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☐ okay
- ■ interesting
- ☐ easy
- ▨ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☐ Reading is very important.
- ■ Reading is only important if you need to get a job.

Check which ones are true for you:

- ■ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☐ Skip the hard part
- ☐ Skip the hard part and come back to it later
- ■ I re-read it (silently)
- ☐ I read it out loud
- ☐ I ask others for help
- ☐ I ask others to read it out loud so I can hear it
- ☐ I try to put it in my own words so I can understand it
- ▨ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☐ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? (Yes) No

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- 2 ▨ Reading faster
- 1 ■ Saying words correctly
- ☐ Understanding better
- ☐ Remembering more

2

Student Reading Survey - Post-intervention - Aisha, 8th grade

Name: _____ Date: _____

Most of the time, the reading I do for school is:

- ☐ boring
- ☑ okay
- ☐ interesting
- ☐ easy
- ☐ just right
- ☐ too hard

Check which ones are true for you:

- ☐ Reading is not important.
- ☐ Reading is very important.
- ☑ Reading is only important if you need to get a job.

Check which ones are true for you:

- ☑ Reading is more important now than it was years ago.
- ☐ Reading is not as important as it used to be years ago.

When I am reading and I get stuck on a hard part or word, I:

- ☐ Skip the hard part
- ☑ Skip the hard part and come back to it later
- ☑ I re-read it (silently)
- ☑ I read it out loud
- ☑ I ask others for help
- ☑ I ask others to read it out loud so I can hear it
- ☑ I try to put it in my own words so I can understand it
- ☐ I look at the pictures to see if I can understand it
- ☐ I try to draw it
- ☑ I explain it to someone else

Do you like to read? (Yes) No

Are you a good reader? Yes (No)

If I could fix two things about my reading I would choose: (write a number 1 and 2)

- ☑ Reading faster
- ☑ Saying words correctly
- ☐ Understanding better
- ☑ Remembering more

2

4. ATTITUDE DATA SAMPLES

Visualization Surveys

Pre-intervention

Visualization Survey - Pre-intervention - Mandy, 6th grade

Name: Mandy _____ Date: 11/29/05

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to <u>understand</u> what I read, the hardest part is:

- ■ Knowing how to say words right
- ■ Knowing what words mean
- ■ Knowing what sentences mean
- ■ Knowing who is talking
- ❑ Relating what I read to what I know

When I try to <u>remember</u> what I read, the hardest part is:

- ■ Remembering the sounds I read
- ■ Remembering the words I read
- ❑ Remembering the people I read about
- ■ Remembering what happens in the reading
- ❑ Remembering why I am reading

1

Visualization Survey - Pre-intervention - Catherine, 6th grade

Name: Catherine _____ Date: 11/9/05

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	(Sometimes)	Never
Words	All the time	(Sometimes)	Never
One picture	All the time	(Sometimes)	Never
Lots of pictures	All the time	Sometimes	(Never)
Movies	All the time	Sometimes	(Never)

When I try to <u>understand</u> what I read, the hardest part is:

- ☐ Knowing how to say words right
- ☑ Knowing what words mean
- ☐ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to <u>remember</u> what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ☒ Remembering the words I read
- ☐ Remembering the people I read about
- ☐ Remembering what happens in the reading
- ☐ Remembering why I am reading

1

Visualization Survey - Pre-intervention - Ronald, 7th grade

Ronald

Name: ___ Date: 11/29/05

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

- ❑ Knowing how to say words right
- ■ Knowing what words mean
- ■ Knowing what sentences mean
- ❑ Knowing who is talking
- ❑ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ❑ Remembering the sounds I read
- ■ Remembering the words I read
- ❑ Remembering the people I read about
- ■ Remembering what happens in the reading
- ❑ Remembering why I am reading

1

Visualization Survey - Pre-intervention - Junior, 7th grade

Name: Junior _____ Date: 11/29/05

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

- ☑ Knowing how to say words right
- ☑ Knowing what words mean
- ☐ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ☑ Remembering the words I read
- ☐ Remembering the people I read about
- ☐ Remembering what happens in the reading
- ☑ Remembering why I am reading

1

Visualization Survey - Pre-intervention - Fernando, 8th grade

Name: Fernando _____ Date: 11/29/05

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	(Sometimes)	Never
Words	All the time	Sometimes	(Never)
One picture	All the time	(Sometimes)	Never
Lots of pictures	All the time	Sometimes	(Never)
Movies	All the time	Sometimes	(Never)

When I try to <u>understand</u> what I read, the hardest part is:

- ■ Knowing how to say words right
- ■ Knowing what words mean
- ■ Knowing what sentences mean
- ❑ Knowing who is talking
- ❑ Relating what I read to what I know

When I try to <u>remember</u> what I read, the hardest part is:

- ■ Remembering the sounds I read
- ■ Remembering the words I read
- ❑ Remembering the people I read about
- ❑ Remembering what happens in the reading
- ■ Remembering why I am reading

1

Visualization Survey - Pre-intervention - Aisha, 8th grade

Aisha PRE-INTERVENTION

Name: _____ Date: 11/29/05

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	(All the time)	Sometimes	Never
Words	All the time	(Sometimes)	Never
One picture	All the time	(Sometimes)	Never
Lots of pictures	All the time	(Sometimes)	Never
Movies	All the time	(Sometimes)	Never

When I try to <u>understand</u> what I read, the hardest part is:

- ☑ Knowing how to say words right
- ☐ Knowing what words mean
- ☑ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to <u>remember</u> what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ☑ Remembering the words I read
- ☐ Remembering the people I read about
- ☑ Remembering what happens in the reading
- ☐ Remembering why I am reading

1

5. ATTITUDE DATA SAMPLES

Visualization Surveys

Post-intervention

Visualization Survey - Post-intervention - Mandy, 6th grade

Name: Mandy Date: 1/25/06

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

- ❑ Knowing how to say words right
- ❑ Knowing what words mean
- ■ Knowing what sentences mean
- ❑ Knowing who is talking
- ❑ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ❑ Remembering the sounds I read
- ❑ Remembering the words I read
- ❑ Remembering the people I read about
- ■ Remembering what happens in the reading
- ❑ Remembering why I am reading

1

Visualization Survey - Post-intervention - Catherine, 6th grade

Name: _____ Date: _____

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

- ☒ Knowing how to say words right
- ☐ Knowing what words mean
- ☐ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ☐ Remembering the words I read
- ☐ Remembering the people I read about
- ☒ Remembering what happens in the reading
- ☐ Remembering why I am reading

1

Visualization Survey - Post-intervention - Ronald, 7th grade

Name: Ronald _____ Date: _____

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

- ☐ Knowing how to say words right
- ☐ Knowing what words mean
- ☐ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ☐ Remembering the words I read
- ☐ Remembering the people I read about
- ☐ Remembering what happens in the reading
- ☐ Remembering why I am reading

1

Visualization Survey - Post-intervention - Junior, 7th grade

Name: Junior _____ Date: 1/25/06

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

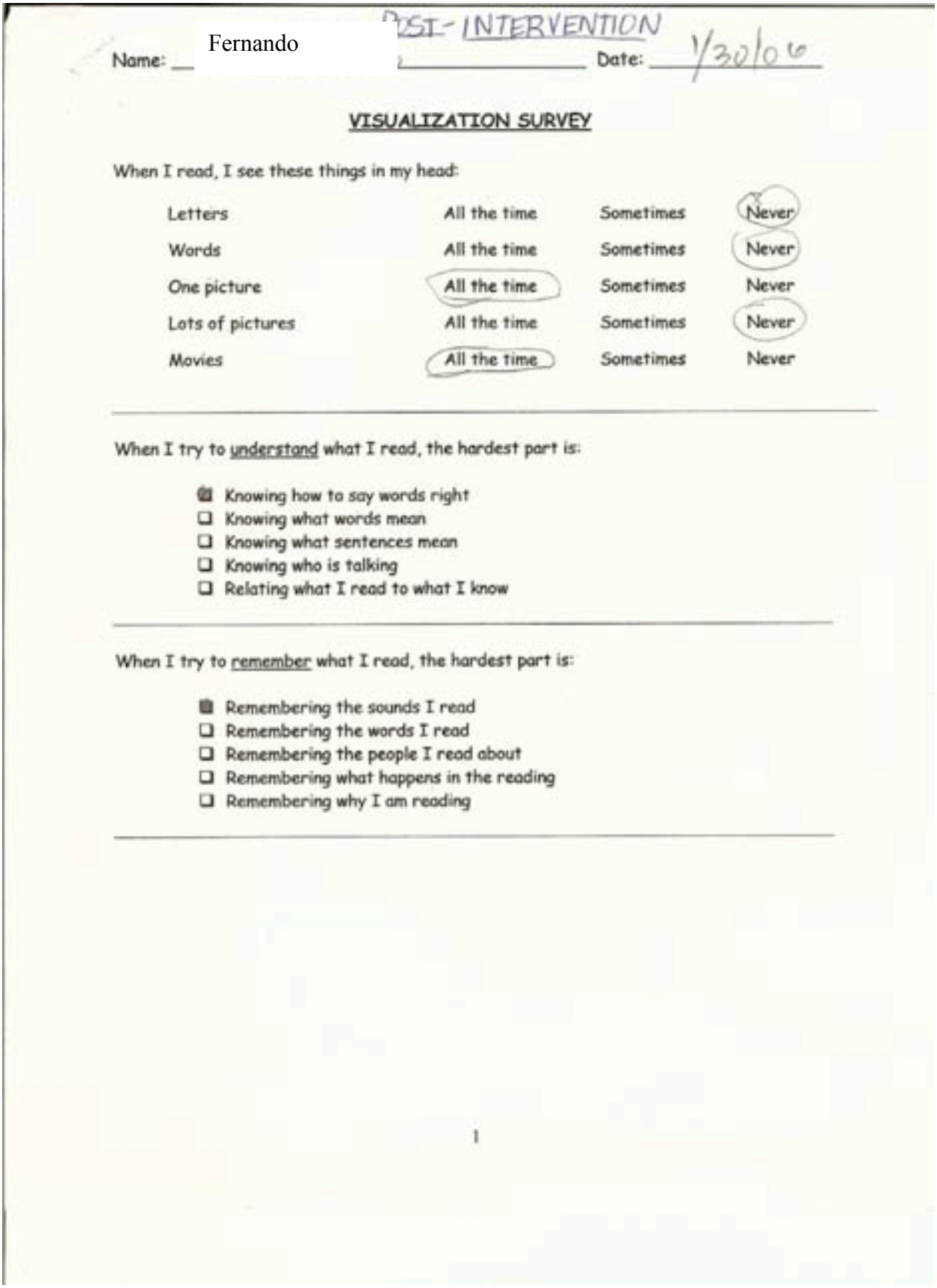
- ■ Knowing how to say words right
- ■ Knowing what words mean
- ☐ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ■ Remembering the words I read
- ☐ Remembering the people I read about
- ■ Remembering what happens in the reading
- ☐ Remembering why I am reading

1

Visualization Survey - Post-intervention - Fernando, 8th grade



POST- INTERVENTION

Name: Fernando Date: 1/30/06

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

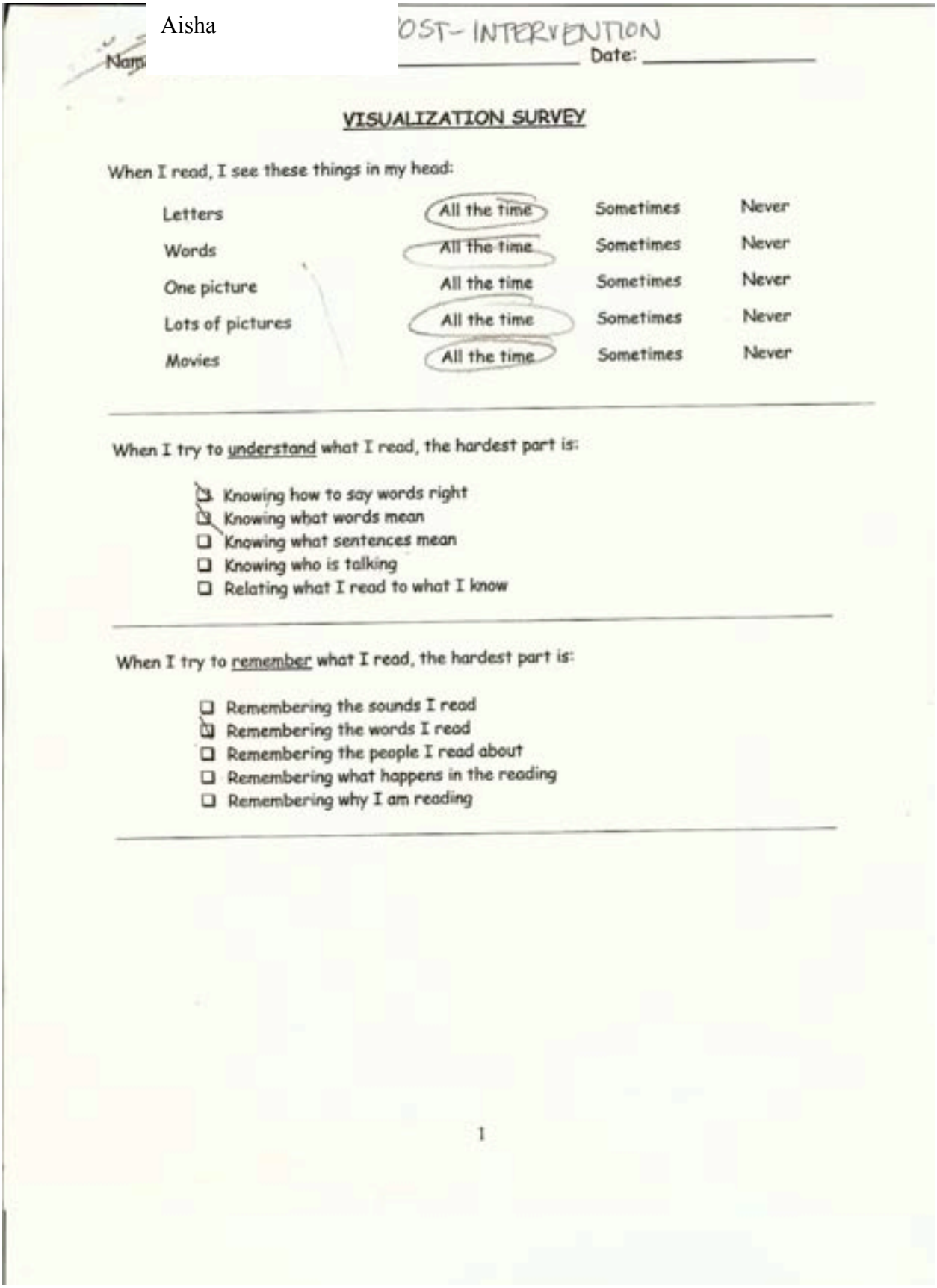
- ■ Knowing how to say words right
- ❑ Knowing what words mean
- ❑ Knowing what sentences mean
- ❑ Knowing who is talking
- ❑ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ■ Remembering the sounds I read
- ❑ Remembering the words I read
- ❑ Remembering the people I read about
- ❑ Remembering what happens in the reading
- ❑ Remembering why I am reading

1

Visualization Survey - Post-intervention - Aisha, 8th grade



Name: Aisha

POST- INTERVENTION

Date: _____

VISUALIZATION SURVEY

When I read, I see these things in my head:

Letters	All the time	Sometimes	Never
Words	All the time	Sometimes	Never
One picture	All the time	Sometimes	Never
Lots of pictures	All the time	Sometimes	Never
Movies	All the time	Sometimes	Never

When I try to understand what I read, the hardest part is:

- ☑ Knowing how to say words right
- ☑ Knowing what words mean
- ☐ Knowing what sentences mean
- ☐ Knowing who is talking
- ☐ Relating what I read to what I know

When I try to remember what I read, the hardest part is:

- ☐ Remembering the sounds I read
- ☑ Remembering the words I read
- ☐ Remembering the people I read about
- ☐ Remembering what happens in the reading
- ☐ Remembering why I am reading

1

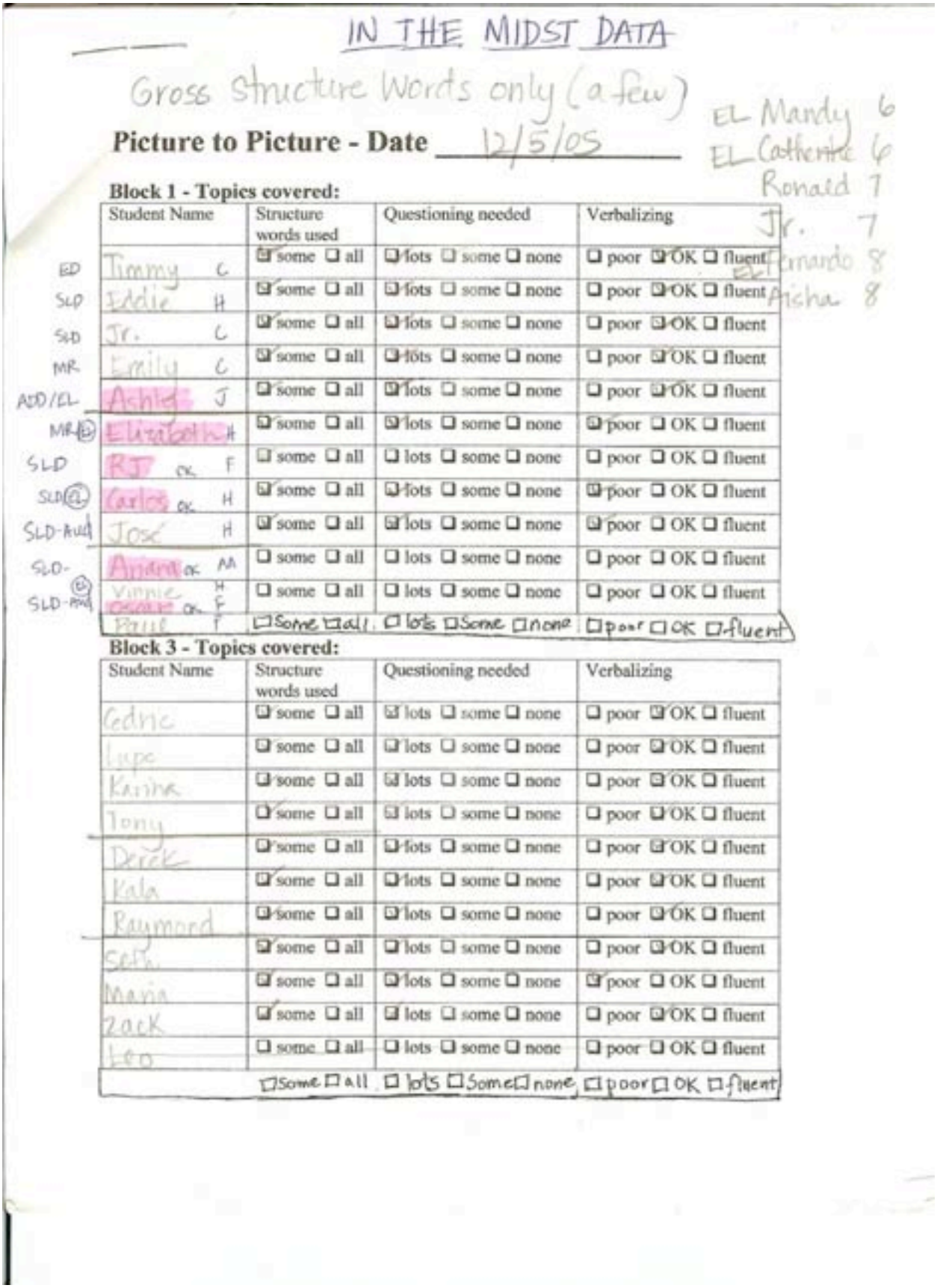
6. OBSERVATION DATA SAMPLES

Picture to Picture Checklist

(used for Picture to Picture and Sentence by Sentence)

In-the-midst data

Picture-to-Picture - In the midst - Observation Data



IN THE MIDST DATA

Gross Structure Words only (a few)

Picture to Picture - Date 12/5/05

EL Mandy 6
EL Catherine 6
Ronald 7
Jr. 7
EL Fernando 8
Aisha 8

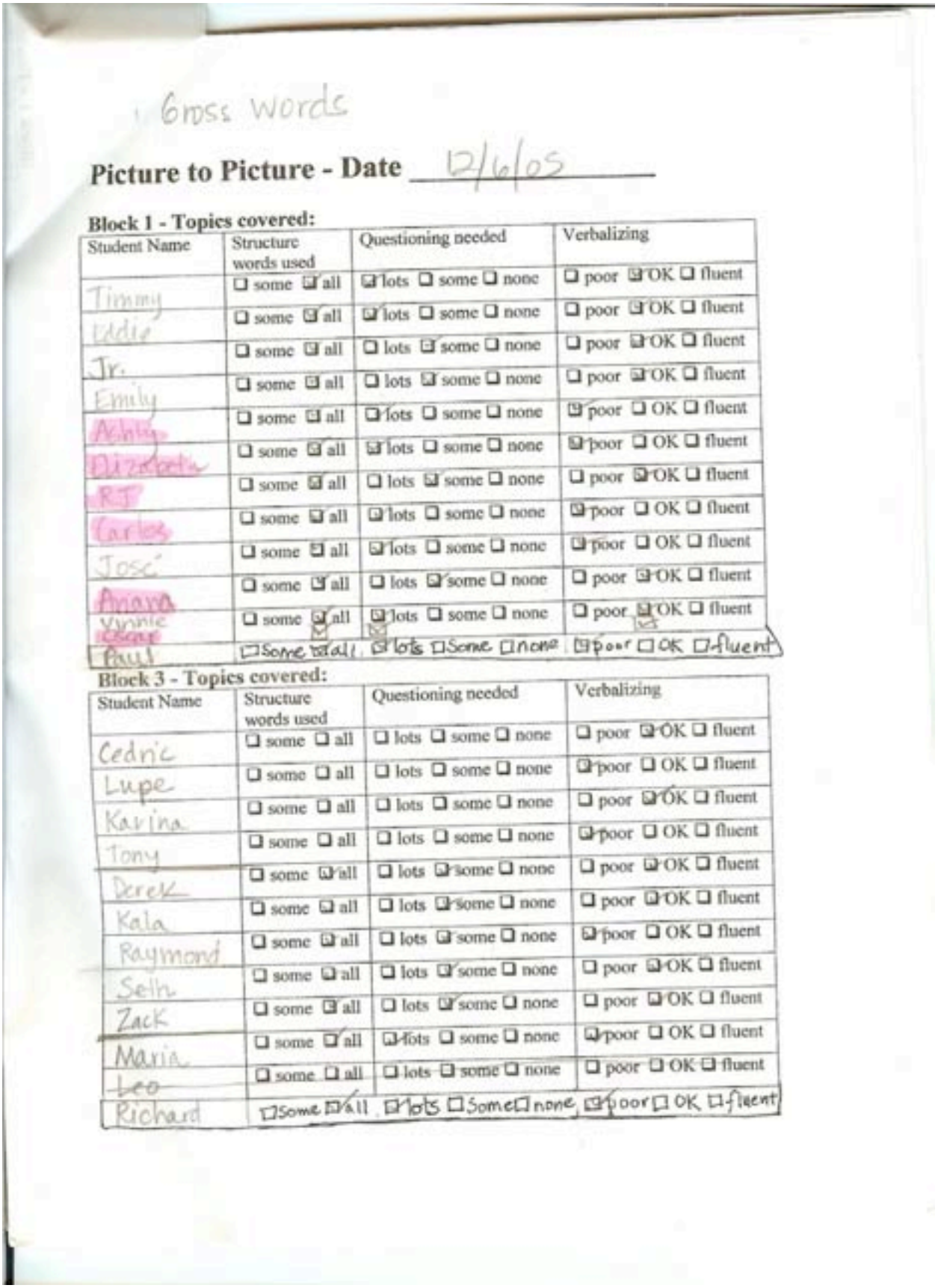
Block 1 - Topics covered:

	Student Name	Structure words used	Questioning needed	Verbalizing
ED	Timmy C	☑ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
SLD	Eddie H	☑ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
SLD	Jr. C	☑ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
MR	Emily C	☑ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
ADD/EL	Ashley J	☐ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
MR (EL)	Elizabeth H	☐ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
SLD	RJ ok F	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
SLD (EL)	Carlos ok H	☑ some ☐ all	☐ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
SLD-Aud	Jose H	☑ some ☐ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
SLD-	Anand ok AA	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
SLD-Aud (EL)	Vinnie H ok F	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	Paul T	☐ Some ☐ all	☐ lots ☐ Some ☐ none	☐ poor ☐ OK ☐ fluent

Block 3 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
Cedric	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Lupe	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Karina	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Tony	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Derek	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Kala	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Raymond	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Seth	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Maria	☑ some ☐ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Zack	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Leo	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ Some ☐ all	☐ lots ☐ Some ☐ none	☐ poor ☐ OK ☐ fluent

Picture-to-Picture - In the midst - Observation Data



1. Gross Words

Picture to Picture - Date 12/6/05

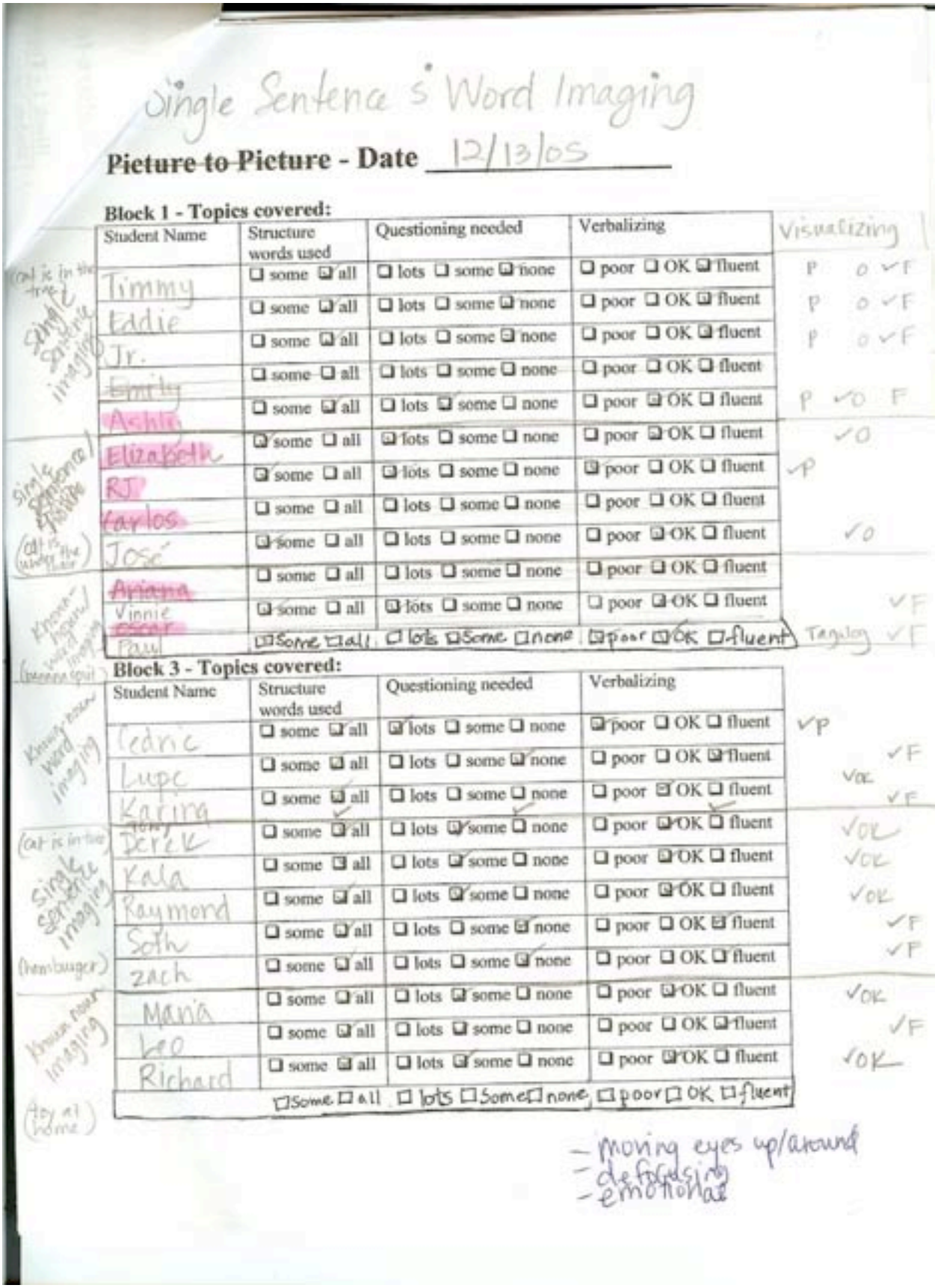
Block 1 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
Timmy	☐ some ☑ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Eddie	☐ some ☑ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Jr.	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Emily	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Ashly	☐ some ☑ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Elizabeth	☐ some ☑ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
RJ	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Carlos	☐ some ☑ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Josi	☐ some ☑ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Amara	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Yvnnie	☐ some ☑ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Paul	☐ Some ☒ all	☒ lots ☐ Some ☐ none	☒ poor ☐ OK ☐ fluent

Block 3 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
Cedric	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Lupe	☐ some ☐ all	☐ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Karina	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Tony	☐ some ☐ all	☐ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Derek	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Kala	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Raymond	☐ some ☑ all	☐ lots ☑ some ☐ none	☑ poor ☐ OK ☐ fluent
Seth	☐ some ☐ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Zack	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Maria	☐ some ☑ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent
Leo	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Richard	☐ Some ☒ all	☒ lots ☐ Some ☐ none	☒ poor ☐ OK ☐ fluent

Single-Sentence and Word Imaging - In the midst - Observation Data



Single Sentence & Word Imaging

Picture to Picture - Date 12/13/05

Block 1 - Topics covered:

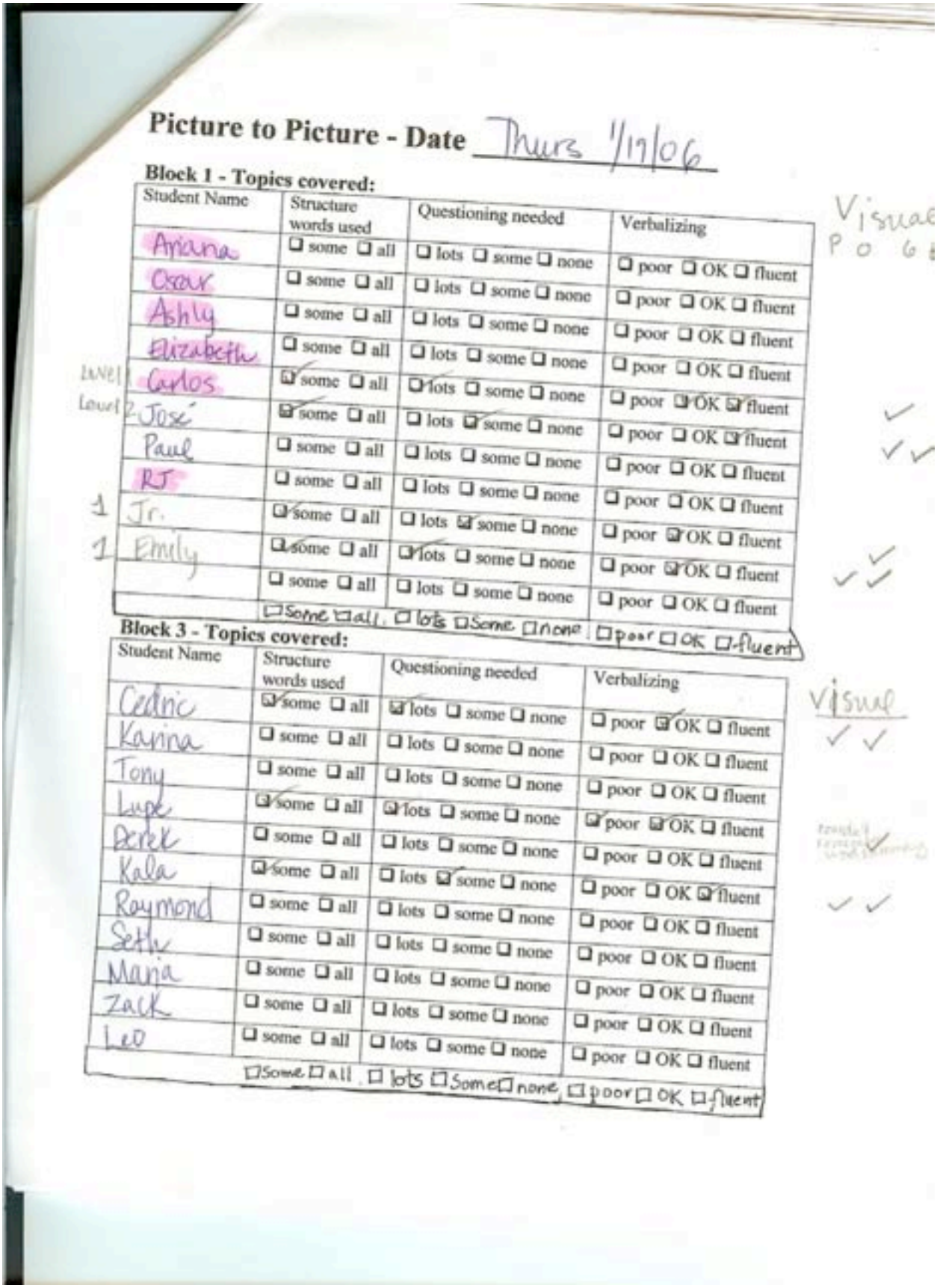
Student Name	Structure words used	Questioning needed	Verbalizing	Visualizing
Timmy	☐ some ☑ all	☐ lots ☐ some ☑ none	☐ poor ☐ OK ☑ fluent	P O ✓F
Eddie	☐ some ☑ all	☐ lots ☐ some ☑ none	☐ poor ☐ OK ☑ fluent	P O ✓F
Jr.	☐ some ☑ all	☐ lots ☐ some ☑ none	☐ poor ☐ OK ☑ fluent	P O ✓F
~~Emily~~	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent	
Ashlin	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent	P ✓O F
Elizabeth	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent	✓O
RJ	☑ some ☐ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent	✓P
Carlos	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent	
José	☑ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent	✓O
~~Ariana~~	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent	
Vinnie	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent	✓F
~~Oscar~~ Paul	☐ Some ☐ all	☐ lots ☐ Some ☐ none	☐ poor ☐ OK ☐ fluent	Taylor ✓F

Block 3 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing	
Cedric	☐ some ☑ all	☑ lots ☐ some ☐ none	☑ poor ☐ OK ☐ fluent	✓P
Lupe	☐ some ☑ all	☐ lots ☐ some ☑ none	☐ poor ☐ OK ☑ fluent	✓F
Karina	☐ some ☑ all	☐ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent	✓OK ✓F
Derek	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent	✓OK
Kala	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent	✓OK
Raymond	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent	✓OK
Seth	☐ some ☑ all	☐ lots ☐ some ☑ none	☐ poor ☐ OK ☑ fluent	✓F
Zach	☐ some ☑ all	☐ lots ☐ some ☑ none	☐ poor ☐ OK ☐ fluent	✓F
Maria	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent	✓OK
Leo	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☐ OK ☑ fluent	✓F
Richard	☐ some ☑ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent	✓OK
	☐ Some ☐ all	☐ lots ☐ Some ☐ none	☐ poor ☐ OK ☐ fluent	

- moving eyes up/around
- defocusing
- emotional

Sentence-by-Sentence - In the midst - Observation Data



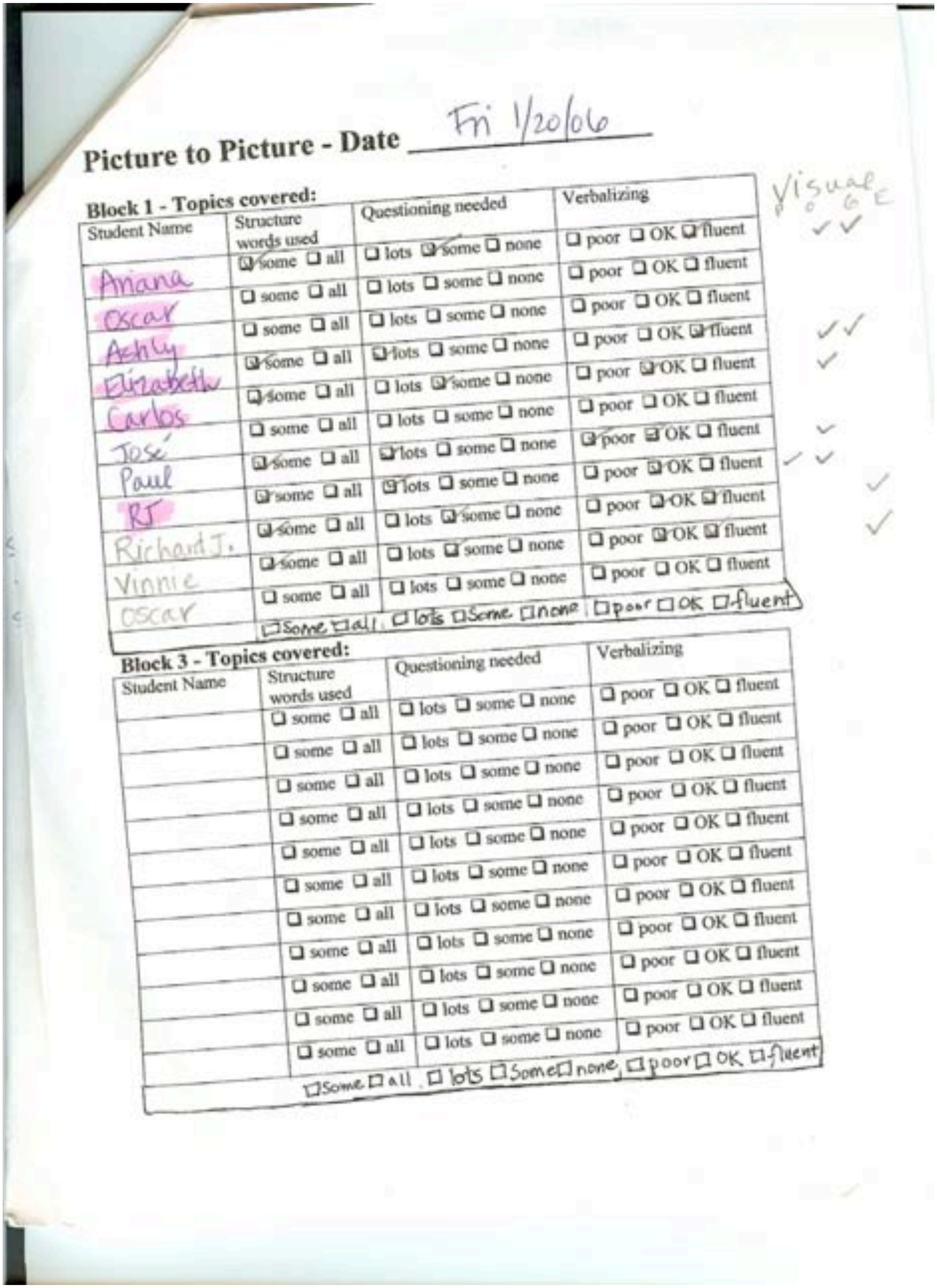
Picture to Picture - Date Thurs 1/19/06

Block 1 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
Ariana	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Oscar	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Ashly	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Elizabeth	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Carlos	☑ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☑ fluent
José	☑ some ☐ all	☐ lots ☑ some ☐ none	☐ poor ☐ OK ☑ fluent
Paul	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
RJ	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Jr.	☑ some ☐ all	☐ lots ☑ some ☐ none	☐ poor ☑ OK ☐ fluent
Emily	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent

Block 3 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
Cedric	☑ some ☐ all	☑ lots ☐ some ☐ none	☐ poor ☑ OK ☐ fluent
Kayina	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Tony	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Lupe	☑ some ☐ all	☑ lots ☐ some ☐ none	☑ poor ☑ OK ☐ fluent
Derek	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Kala	☑ some ☐ all	☐ lots ☑ some ☐ none	☐ poor ☐ OK ☑ fluent
Raymond	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Seth	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Maria	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Zack	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Leo	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent



Picture to Picture - Date Fri 1/20/06

Block 1 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
Ariana	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Oscar	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Ashly	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Elizabeth	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Carlos	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
José	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Paul	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
RJ	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Richard J.	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Vinnie	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
Oscar	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent

Visual

Block 3 - Topics covered:

Student Name	Structure words used	Questioning needed	Verbalizing
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent
	☐ some ☐ all	☐ lots ☐ some ☐ none	☐ poor ☐ OK ☐ fluent