Syracuse University

School of Education

Teaching & Leadership Programs

Psychoeducational Teaching Laboratory

Evaluation Results

Name: Will Smudler   **School:** Elementary

Date of Birth: 11/13/2000   **Grade:** 3

Parents: Susan Mulpagano & Marcus Smudler   **Age at Evaluation:** 9 years, 3 months

Evaluation Dates: 2/5/2010, 2/12/2010, 2/19/2010

Reason for Referral

Will Smudler was referred for evaluation by his mother, Ms. Susan Lamarca, due to concerns with his poor reading skills, restlessness, and inability to follow through on independent tasks at school. Ms. Lamarca's concerns have persisted since Will repeated kindergarten, upon her request. Although Will has been tutored over the summer and received special reading assistance at school, his reading scores have not improved since second grade. Ms. Lamarca is concerned that two different teachers have reported that Will, "seems to have trouble focusing on his work." In addition, they say that he "zones out," though she has never seen Will do this.

Ms. Lamarca expresses concerns that when she reads with Will he doesn't recognize a word that he knew before a few sentences later. She reports that while Will reads he sounds out and adds letters that are not in the word he is trying to read. Will knows very few sight words, and does not understand the concept of rhyming.

Medical History

Ms. Lamarca reported that Will was born at term by cesarean section at 8 lbs 3ozs, without any pre or post natal complications. His language and motor skills developed typically. He had normal developmental milestones: walked at 10 months and talked at 18 months. As an infant Will did not sleep well, often waking at 4 am for the day. His mother reports that currently he sleeps an average of 8-10 hours per night. Currently Will is being treated

homeopathically for warts on his hand. A gluten free diet did not have any lasting effect on Will's attention in school and is no longer followed. Other than daily vitamins Will does not take any other medications.

Family History

Will, age 9, lives in Canastota, NY, a small rural community outside of Syracuse. Will lives with his mother, Ms. Susan Lamarca. Will's parents are separated and maintain shared custody of Will. Ms. Lamarca owns a cosmetology salon in Oneida and Will's biological father, Mr. Marcus Smudler, worked at a wine mill. Mr. Smudler left the household when Will was two years old. Will reported that he sees his father five times a week and has weekend visits with him. Ms. Lamarca reports that there is some difficulty caused by Will having two homes with two different sets of rules.

Will has an older sister, Jamie Smudler who is in her early twenties and no longer resides with either of her parents.   Will has cousins who live in the area; one of Will's cousins had similar learning issues as Will does at his age. She currently is an honor student and athlete at a community college. Will's father is currently in a relationship with another woman. During the home visit, Will was asked what he thought about his dad; Will stated that when his father started dating another woman was when his life was "ruined." Will reports that he does not get along with his father's girlfriend or her daughter who is the same age as he is. Despite the separation, Will has many rich experiences with both parents; each travels often and engages with Will in many outdoor activities. Ms. Lamarca stated that she reads with Will every night.

Will reports that he has many friends and listed them. Will's friend Kyle lives near Will so the two friends often get together after school. Will had many stories about the big birthday parties his mother throws for his birthdays. Ms. Lamarca also commented that in the past year Will has been invited to more birthdays and is getting closer to friends in school, but before that he was more isolated.

A home visit was conducted with the objective of meeting Will and his family. Ms. Lamarca and Will live in a newly built modular home relatively close to their old residence. They reside within close proximity to Will's biological father and maternal grandparents. The residence has a large backyard where they keep chickens. Also residing at the house is a beagle named Abby and a hermit crab.

During the home visit, Ms. Lamarca reported what she described as a "life changing event." Will was molested by a neighbor at age four. The neighbor served 3 years jail-time for the offense and was just released- he lives on the same street as Will. At the time of the incident, Will and Ms. Lamarca immediately moved into Will's maternal grandmother's basement for a year and then built a new modular home nearby, in which Will and his mother currently reside in. Ms. Lamarca wishes to put the event behind them however she reports that recently Will told a friend, "My friend used to play with me in the sandbox, but he's in jail now."

Will occupies the master bedroom and master bathroom and was thrilled to show off his room. Most of the time was spent describing all of his possessions and the stories behind them. From his treasure chest which he bought at *Disney World* to his BB Guns, Will had a descriptive story for everything; he loves to share his experiences in a detailed and enthusiastic manner. Next to his bed, Will has two shelves containing books and magazines. Many of the books which he said he reads are "beginning to read" books for approximately first to second grades. He also has very advanced books and magazines about hunting and mechanical science.

Will is an energetic young boy who greeted us with a never ending smile and many stories to share. We sat down with Will and asked him to describe himself. He began by telling us about his interests which include: the outdoors, hunting, trucks & machinery, pirates, nature, 4-wheeling, fishing, going to his friends' houses, and playing video games on his *X-Box,* and *Playstation* (specifically *The Last Planet).* Will used to play on a soccer team. His favorite color is green. Will aspires to be a swamp logger. He explained that his favorite subject in school is math because he's "good at it."   He also enjoys the *Child Lures Program* (a safety program which teaches students how to avoid strangers) because students get to act out scenes. Will describes himself as an artist because he loves to create things and draw pictures. Will beams when he is verbally praised.

It was very evident that Will loves to do hands-on activities since he had many toy trucks and *Bionicles* which he built himself in his room. Will also described how he helped build the deck on his house and has his own electric drill. Will collects *Hess Trucks* as well as other trucks and machines. Will also has a wide collection of naturalistic specimens such as pebbles, a robin's egg, deer antlers, whale teeth, a rabbit's foot, etc. He could express in great detail how vehicles work in real-life. His ability to comprehend the mechanics of machinery is very advanced; during the home visit Will described how the *Chunnel* works and how garbage trucks use magnets to lift garbage cans. Ms. Lamarca reports that Will learned to handle a backhoe at a very young age.

Classroom Observations

Two clinicians from Syracuse University went to visit Will at Elementary School. Will's class is combined with another third grade class for the whole day. There are two teachers in the room co-teaching every lesson. The walls of the classroom have posters related to school material hung mostly in the back of the room, with some on the side walls. There is a white board and SmartBoard in front of the classroom. The room is set up with eight tables for the thirty two students to sit at during lessons. There are four or five students at each table. Will sits at the first table in front of the SmartBoard, right next to the teachers' desks.

When the students entered the room after lunch, Will had to be reminded to finish writing down his homework for the day. He had to be reminded two more times before one of the teachers sat with him and began writing with him. The other teacher continued teaching the lesson while this was going on. As the lesson continued, Will was looking around the room or

staring out the window and did not seem to be listening to what was being taught. There were times when students were asked to raise their hands or stand up in response to a question and Will would first look around the room then complete the task. It seemed like he was following his peers to get clues about how to answer the teacher's questions.

Most of the lessons were teacher directed and very verbal, with only a few students contributing during the lesson. There were a few times when Will was asked to answer a question but it had to be asked again for him to be able to answer it. One of the teachers had to clap in front of his face to get his attention when asked a question. This got Will's attention and he then answered the question correctly.

When working in small groups (table groups) to discuss a question that was asked to the class, Will did not contribute to the conversation. There was always a teacher who went over to his group, sat with them and helped get Will involved in the conversation. He had to be prompted to talk to his group members. When prompted he then leaned in to start having a conversation with his group instead of sitting back like he had been previously. It seemed as if he needed this urging or prompting from the teacher in order to be engaged.

There were a few moments when Will was engaged in the lesson without the teachers' prompting. This occurred when one of the teachers was reading a book about the Moon and its cycles on the SmartBoard and throughout a discussion that involved students coming up and doing some role playing in front of the classroom. There were also a few times when a teacher would joke around with the students, which also drew Will into the lesson.

Throughout the day Will seemed to be distracted by objects on his desk or around him. He would often be playing with a pencil or containers on his desk but the teacher was quick to take those things away or tell Will to put them down. At one point he had a ruler in his hand and was flicking it on his chair. He would also fidget at his seat. Sometimes he would be sitting in one direction then put his head on the table, or just move his feet around on the floor, creating noise and a distraction to others. There was a sensory break done in between two lessons where the class played Simon Says. The students had to follow along with the teacher and were told they were "out" if they did something wrong. Will was in the first group of students to be "out." This group of students was only out of their seats and active for about 20 – 30 seconds.

For the last fifteen minutes of the day Will went to a small reading group. He is in a group of three students; the other two students are in second grade. During this time Will was looking around the room and not always responsive to the teacher's questions. The teacher would have to ask him twice to get a response. When speaking in chorus with the other two students, Will was either quiet with his response or nonresponsive. While reading a story he was not following along when other members of the group were reading. Instead, he was flipping through his book to other pages.

Overall, Will's behavior at school was noticeably different from his classmates'. It was apparent that concentrating and attention were areas of great difficulty for him. He seemed disinterested or even unaware of what was going on around him in the classroom and in his small

reading group. Although participating and speaking with his peers was limited, when presented with something that interested him, you could see him light up and focus on what was happening.

Teacher Interviews

The clinicians met with Will's general education teachers, Mrs. Williams and Mrs. Cardimone, and his reading teacher, Mrs. Homer. They discussed Will's current program, his strengths and weaknesses and their primary concerns. They described Will as a child who is sweet and wants to please, is very verbal, an auditory learner, has good listening comprehension, is better in math than reading, and likes outdoor activities.

His teachers agreed that Will's primary area of need is reading and this affects all other areas as well. He is currently receiving pull-out reading support five times a week for approximately 30 minutes. Both of his teachers work with him on reading in the classroom and a reading teacher pushes in for 30 minutes per day. Will has no documented testing modifications, which Mrs. Williams believes that "he clearly needs but cannot be provided for him because he has no IEP." When Will was in second grade, he was reading at a level 8, instead of the expected level 18. He has since then improved to a level 11, but has remained at this level since the beginning of third grade. The next lowest child in the class is currently reading at a level 21. Will's current grades in school are a D in reading, a C- in math, a 2 in spelling, and a D in writing.

The conversation with Will's classroom teacher, Mrs. Williams , dealt with more specific classroom behaviors. She is concerned that Will is immature for his age and usually does not do his homework because he forgets to take it home with him. According to Mrs. Williams , Will often talks abnormally loud, doesn't respect personal space, interrupts when she is teaching, and is frequently laying on the table not participating. She described him as being "spaced out" and it can take quite a bit to get him to snap out of it. She shared a quote with us from Will on October 1, 2009, "It was weird last year. My eyes would be open and I could see the screen, but I couldn't make myself do anything until my teacher would go WILL, WILL!' (waving his hands in front of his face)." Mrs. Williams describes Will as an inconsistent "non-reader" who "is like an etch-a-sketch, it's here one day and gone the next." She feels that he is becoming frustrated because he is not progressing and is not responding to any RTI.

When asked about some of the strategies used, Mrs. Williams stated that most instruction is teacher directed. She also feels that Will is too distracted to work in small groups or independently unless he has teacher support. Mrs. Williams has tried strategies such as using rote learning, segmenting words, making sense of texts, picture cues to help Will become a better reader but none of these seem to be working for him. She is concerned that he has poor reading comprehension, poor decoding and letter sound recognition, difficulty finding patterns in rhyming, inconsistency with sight words, and trouble remembering things beyond short term.

Another area of concern from Will's teachers was with his social skills. They feel that Will does not have many friends in school and is not very sociable. Will's teachers feel that the other kids see him as a distraction; therefore they chose to ignore him. He and his friend Kyle have a love/hate relationship resulting in many arguments in which Will gets into tears rapidly.

Previous Evaluation Results

Will was previously evaluated in 2008 due to concerns with his school achievement. Will was evaluated over two sessions. During the first session Will was administered the Beery-Buktenica Developmental Tests of Visual-Motor Integration (VMI) and the Wechsler Intelligence Scale for Children- Fourth Edition (WISC-IV). During the second session Will was evaluated by the special education teacher using the Wechsler Individual Achievement Test-II (WIAT-II). Will was also evaluated using the Behavior Assessment System for Children-Second Edition (BASC-2), a teacher rating scale completed by his second grade teacher. Both examiners reported that Will put forth variable effort during testing and that the results of the assessments should be viewed with caution.

Will's general cognitive ability, as estimated by the WISC-IV, is in the Average range (90). Will's general verbal comprehension abilities were in the Average range (95), and general perceptual reasoning abilities were in the Low Average range (88). General working memory abilities tested in the Low Average range (83) and general processing speed abilities in the Average range (109). Will's abilities to sustain attention, concentrate, and exert mental control were reported to be weak relative to his ability to process visual material quickly. He was reported to demonstrate relatively weak skills in Numerical Operations (73), Reading Comprehension (76), Spelling (81), and Word Reading (80) on the WIAT-II.

Concerning the BASC teacher report, Will scored in the average ranges for all scales except hyperactivity, learning problems, and school problems, on which he scored clinically significant at the 95th, 99th, and 99th percentile respectively.

Assessment Procedures

Teacher Interview
Parent Interview
Student Interview
Draw a Person
Sentence Completion
Draw Your Family
Roberts Apperception Test - 2
Developmental Neuropsychological Assessment (NEPSY II)
Comprehensive Test of Phonological Processing (CTOPP)
Woodcock Reading Mastery Tests- Revised (WRMT-R)
Gray Oral Reading Test 4th Edition (GORT-4)

Tests of Written Language 4th Edition (TOWL-4)
Key Math Diagnostic Assessment- 3rd Edition (Key Math-3)
The Conner's Behavior Scale

Evaluation Results

Academic Assessment:

<h3 style="text-align:center">Test of Written Language- 4th Edition (TOWL-4)</h3>

The Test of Written Language 4th Edition (TOWL-4) is a comprehensive diagnostic test of the expressive form of written language. The TOWL-4 was administered to Will in one session in order to assess his ability to perform the three components of written language: conventional (writing in compliance with orthographic standards), linguistic (proper use of grammatical and semantic elements), and cognitive (expression of ideas in creative and mature ways). The TOWL 4 assesses these three components using five contrived subtests and two spontaneous subtests. In order to score the TOWL-4, the examiner converts scores to normative scores (scaled scores) for one's age group. Percentile ranks represent a value on a scale of 100 that indicates the percentage of the normative population that is equal to or below Will's score. The chart below summarizes the scores for the TOWL-4.

Category	Subtest	Scaled Score	Percentile Rank	Classification
Spontaneous Writing	Contextual Conventions	-	-	-
	Story Composition	-	-	-
Contrived Writing	Vocabulary	3	1	Very poor
	Spelling	4	2	Poor
	Punctuation	6	9	Below Average
	Logical Sentences	3	1	Very Poor
	Sentence Combining	6	9	Below Average

Spontaneous Writing

The spontaneous subtests included the Contextual Conventions and Story Composition subtests of the TOWL-4, which assess written expression. Will was asked to write a story based on a picture of a realistic scene involving a fire. The factors examined on this measure were his ability to write in two areas: contextual conventions (capitalization, sentence structure, punctuation, spelling, etc.) and story composition (story sequence, storyline, character, vocabulary, etc.).

Will was shown the sample picture and read an example story before he was asked to begin writing. He was given five minutes to plan his story during which time he looked at the picture and wrote nothing. Then he was given 15 minutes to write the story during which time he did not write anything. Because he did not write anything, he was unable to be scored on any of the spontaneous writing subtests. This performance is very unusual and below the first percentile for Will's age.

During the allotted 20 minutes, Will appeared to study the picture carefully but did not write anything. Will played with his pencil and laid his head on the table. The examiner repeatedly reminded Will that he needed to write something that related to the picture and also informed Will how much time he had left every few minutes. At the end, Will stated that he couldn't figure out how to start the story so he couldn't write anything.

Contrived Writing

The remaining subtests were contrived subtests meaning that each focused on a certain skill and gave cues for Will to respond to. The five contrived subtests included: Vocabulary, Spelling, Punctuation, Logical Sentences, and Sentence Combining.

For the Vocabulary subtest, Will was given a word to use in a sentence. Will was awarded a point if he wrote a sentence using the given word, and if the word was used correctly and conveyed an understanding of the meaning of the word. Will was not penalized for misspellings or grammatical errors. Will completed the first three items on the subtest, two of which he completed correctly. Will composed the following sentences: *I see saping* (the vocabulary word given was "something")*; I am help; I have a prize*. Then Will stated he was done and didn't complete anymore.

On the Spelling and Punctuation subtests the examiner dictated a sentence to Will and repeated the sentence once. Will was expected to scribe the sentence in his booklet. Will was awarded 2 points for a sentence with proper spelling and punctuation. A point was deducted for any spelling errors or any punctuation errors. Will completed 3 sentences; each sentence had spelling and punctuation errors. After the third sentence Will reached the ceiling and the subtest

was discontinued. Will wrote the following three sentences: *See him on Madey; Was the some dad; am i going.*

The next subtest, Logical Sentences, assessed Will's ability to correct an illogical sentence and make it logical by adding, removing, or changing words. This subtest required Will to read each sentence provided, and make necessary changes to the sentence in order to make it logical. Will was not penalized for any spelling or grammatical errors. Will completed the first item correctly and earned 1 point; the sentence was: "The dog mooed loudly" which Will changed to: "The dog bcte loudly" (he explained that "bcte" said "barked"). Will then appeared to look over the other sentences on the page and make some insignificant marks on the paper. Will then skipped to the 16th item which was illegible. Then Will put down his pencil and stated he couldn't do anymore.

The last subtest, Sentence Combining, assessed Will's ability to combine two sentences into one logical sentence. Will was provided with several items in his response booklet. Each item consisted of two or more sentences. Will was scored on his ability to combine the sentences into one sentence by incorporating the important elements in the stimulus sentences using correct grammar. Spelling, punctuation, and capitalization errors were disregarded. Will completed two items: his first sentence was illogical (Will wrote, "jolly is fat,*"* when he was supposed to write "He is fat and jolly") so he was not awarded any points. His second sentence combined two sentences correctly so he was awarded 1 point (Will wrote, "His tie is yellow and brown," a combination of "His tie is brown. His tie is yellow."). After completing two items Will stated that he couldn't do anymore.

Composite Performance

These subtests were summed to reflect performance in three composite areas: Contrived Writing, Spontaneous Writing, and Overall Writing. The scaled scores that make up each composite are summed and recorded in the Sum of Scaled Scores. This summed value is converted into a standard score index where the mean is 100 and the standard deviation is 15, and a percentile rank based on age norms. The chart below summarizes Will's composite scores for the TOWL-4.

Composite	Sum of Scaled Scores	Percentile Rank	Classification	Composite Index
Contrived Writing	22	1	Very Poor	67
Spontaneous Writing	-	-	-	-
Overall Writing	22	<1	Very Poor	59

The Contrived Writing composite estimates Will's writing ability when given cues about how to respond. It is formed by combining the results of the Vocabulary, Spelling, Punctuation, Logical Sentences, and Sentence Combining subtests. Will's Contrived Writing composite indicated that Will performed very poorly (the first percentile) compared to students of his age.

The Spontaneous Writing composite estimates Will's writing ability when measured by subtests that evaluate Will's spontaneously composed essay. It is formed by combining the results of the Contextual Conventions and Story Composition subtests. Since Will did not write anything for these two subtests, Will did not earn a Spontaneous Writing score.

The Overall Writing Composite estimates Will's writing ability measured by subtests that use both spontaneous and contrived formats. It is formed by combining the results of all seven subtests. Will's overall writing ability is below the first percentile for his age, indicating very serious written language delays. Will's printing is also immature as occasionally he does not add spaces between words, his letters vary in size, and his writing may not touch the line. Will lacks knowledge in the proper usage of punctuation; no sentences that Will wrote on the TOWL-4 contained a period, comma, or any other type of punctuation. Will's spelling is also a serious concern. Will lacks the ability to spell even simple sight words such as writing *saping* instead of <u>something</u> or *Madey* instead of <u>Monday</u>. His spellings do not approximate the sounds heard in the word (e.g., he spelled <u>barked</u> as *bcte).* Will lacks the ability to use inventive spelling that is typical of kindergarten and first grade students; instead Will writes the first letter and last sound in the word and guesses the remaining letters, with little attention to phonemes. Clinical examination of Will's spelling reflects a serious deficit in phonemic awareness, in that he seems unable to discern the individual sounds that he hears in words.

Story Composition Subtest with Accommodation

After the TOWL-4 was administered, Will was given a break. After the break Will was re-administered the TOWL-4 story composition subtest with an accommodation. Will was shown the same picture and asked to produce a story, but this time was instructed to dictate that story to the examiner. The examiner scribed the story exactly how Will dictated it. The story composition subtest was re-scored for information purposes. Based on age norms, Will's score, indicated below, reflects his performance with the dictation accommodation.

Subtest	Raw Score	Percentile Rank	Scaled Score	Descriptive Term
Story Composition	9	75	12	Average

Will wrote a sixty-nine-word story describing, in great detail, the events in the picture. His story consisted of five sentences and nine vocabulary words as designated by the TOWL 4 scoring criteria. Will clearly described the picture stating that a tree is on fire as a result of a big thunderstorm and gave roles and actions to the characters depicted in the picture. Will showed imagination and knowledge of cause and effect as he gave the story an ending that was not depicted in the picture. With the accommodation of scribing Will's raw score rose to the 75th percentile, meaning that when Will dictates he can elaborate a story at or above the 75th percentile of students his age who are doing the same test in writing. Will scored points for: referring to the event in the picture, the story sequence, the story plot, story action/energy level, story ending and story maturity. Will scored the Willimum points allocated for vocabulary used in the story; Will used over 8 vocabulary words that the TOWL-4 scoring criteria listed. With the accommodation of scribing, Will was able to compose a story as a high-average 9 year old would when writing. It appears that it is the process of writing down his thoughts, which requires the ability to read, that poses great difficulty to Will and presents an impediment to his participation in the classroom.

Woodcock Reading Mastery Tests-Revised

Will was administered the WRMT-R (Form G) to provide an assessment of his basic literacy skills. Will was very cooperative and attentive. The WRMT-R is specifically designed to isolate and assess the skills involved with reading. Will was given the Basic Reading Skills cluster which consists of 2 subtests; Word Identification and Word Attack. Word Identification required Will to identify single words in isolation. The first words are high frequency/sight words, and as the test progresses, the choice of words become less and less frequent in written English. The isolated sight words required Will to produce a natural reading of the word within 5 seconds in order to be scored correct. Word attack required Will to read nonsense words, which are letter combinations that don't create a word but do follow phonetic rules. Will was tested on ability to apply phonic and structural analysis skills to the "words" that he is not familiar with. This task emulates the real life task of encountering new, unknown words. A correct answer is an answer that correctly pronounces the word. For this subtest, there is no time limit. The results from the test are as follows.

Subtest	Standard Score	Percentile
Word Identification	71	3
Word Attack	81	11
Basic Literacy Skills Cluster	**72**	**3**

Will's score demonstrates the difficulty Will has with reading, as he achieved significantly below age expectations --- at a 3rd percentile. For Word Identification, he was able to score on words with vowel digraphs and vowel dipthongs, such as "oo" in "book" and "ay" in

"play." But in Word Attack, he was unable to score on "roo," instead he elicited "row" and for "fay" he elicited "few." This suggest that he has memorized a small number of sight words, but is unaware of their phonetic structure. Will approaches words by trying to decode them letter by letter, seldom by sight. He then tries to blend the sounds together and gets their order confused. Will often reads short vowel sounds as long. In many cases, Will was able to provide the correct initial phoneme for a word but would add random sounds to the word itself. The success and error inventories are as follows.

Word Identification

Word	Response
Correct:	
is	is
and	and
up	up
cat	cat
stop	stop
come	come
jump	jump
book	book
play	play
blue	blue
two	two
boy	boy
bed	bed
milk	milk
car	car
swim	omitted
rug	omitted
with	omitted
find	omitted
Incorrect:	
you	why
help	hop
sun	sud
no	odd
little	like
fast	fish
down	noun
Total	**15 correct responses/ 7 error responses/ 4 omitted**

Word Attack

Nonsense Word	Response
Correct:	
Dee	*dee*
Ap	ap
Ift	ift
Raff	raf
Un	un
Incorrect:	
Nan	yan
Bim	*bime*
Fay	few
Gat	get
Roo	row
Oss	ose
pog	poge
poe	pote
Total	**5 correct responses/**
	8 error responses/
	0 omitted

Will experienced great difficulty with these subtests. His results were significantly below average compared to students of the same age. The score from his Word Identification and Word Attack subtests (Basic Literacy Skills Cluster) indicates that his phonetic and sight vocabulary skills are very poor compared to his peers and the number of years of reading instruction.

Comprehensive Test of Phonological Processing (CTOPP)

The Comprehensive Test of Phonological Processing was administered to Will to evaluate his levels of phonological awareness, phonological memory, and rapid naming. Phonological awareness refers to the general appreciation of the sounds of speech which is essential for successful decoding of written material, where sounding out letter by letter is required and then blending these together. Phonological memory refers to coding sounds for temporary storage in working or short-term memory. Rapid naming refers to the ability to retrieve the phonological information from long-term or permanent memory. The CTOPP consists of twelve subtests, six core and six supplemental, designed to evaluate the different areas of phonological processing that must be mastered in order to be a fluent reader. Will was administered eleven out of twelve subtests. The twelfth subtest was not administered because Will was having difficulty completing the practice section of the subtest. The standard scores for the subtests have a mean of 10 and a standard deviation of 3. His subtests were then combined to

yield three composite scores. The standard scores for the composites have a mean of 100 and a standard deviation of 15. Composite scores between 90 and 110 are considered average. The following scores reflect Will's performance.

Subtest	Standard Score	Percentile Rank	Classification
Elision	6	9	Below Average
Blending Words	10	50	Average
Memory of Digits	9	37	Average
Rapid Digit Naming	5	5	Below Average
Nonword Repetition	7	16	Average
Rapid Letter Naming	6	9	Below Average
Rapid Color Naming	3	1	Poor
Rapid Object Naming	4	2	Poor
Blending Nonwords	7	16	Average
Segmenting Words	8	25	Average
Segmenting Nonwords	7	16	Average

Mean = 10, Standard Deviation = 3

Composites			
Phonological Awareness	88	21	Average
Phonological Memory	88	21	Average
Rapid Naming	73	3	Below Average
Alt. Phonological Awareness	82	12	Below Average
Alt. Rapid Naming	61	<1	Very Poor

Mean = 100, Standard Deviation = 15

Will's standard score of 88 on the Phonological Awareness Composite falls in the low average range. This reflects his performance on both the Elision and the Blending Words subtests. The Elision subtest measures the extent to which Will can say a word and then say what is left after designated sounds are dropped out. Will answered six out of nine attempted items. Will's standard score of 6 and percentile rank of 9th place him in the below average range of performance for Elision. Will demonstrated difficulty leaving out sounds. He tended to leave out more than one sound when saying the words. For example, when given the word *mike* then told to say it without saying /k/ he responded /m/. His performance on the Blending Words subtest was within the average range and at the 50th percentile. Will could combine sounds to make words at an age appropriate level. Will answered fourteen out of eighteen attempted items. For example, he was given the sounds s-ûr-k-é-s and he responded circus.

Will demonstrated low average Phonological Memory skills. His performance on the two memory subtests, Memory for Digits and Nonword Repetition, were both within the average range. Both subtests required Will to repeat items presented on a CD player. For Memory for Digits, Will repeated increasingly longer strings of dictated digits from three to five. For Nonword Repetition, Will heard a nonsense word (e.g. chaseedoolid) and repeated it. He performed at or above 21% of his peers on the Phonological Memory Composite. On the Memory for Digits subtest, Will obtained a standard score of 9. He successfully repeated all items with five or fewer digits. He started to have difficulty when there were six digits. On the Nonword Repetition subtest, Will scored a standard score of 7. He was able to correctly repeat nonwords with up to three syllables. It should be noted that these two subtests assess short term memory and are very fast paced.

Will seemed to have particular difficulty with the Rapid Naming subtests. His composite score for Rapid Naming was 73 and his percentile rank was 3%. This falls within the below average range, indicating that 97 percent of children his age are more proficient in this skill. The Rapid Digit Naming subtest measures the speed with which Will could name the numbers presented on two pages. The numbers ranged from one to nine, in mixed up orders. The Rapid Letter Naming subtest follows the same format, but presents letters instead of numbers. The score is the total number of seconds it took to complete the task. Will was hesitant and slow while reading the numbers and letters. While Will was completing the Rapid Letter Naming he often would miss name the letters *s* and *c*. This performance indicates that Will has great difficulty retrieving sounds that he knows in order to apply them to the corresponding visual symbol. This has significant implications for reading, where Will is to look at letters and words and instantly retrieve from memory the letter or word sounds.

The Alternate Rapid Naming Composite reflects performance on two of the supplemental subtests, Rapid Color Naming and Rapid Object Naming. Both of these subtests measure the speed with which Will could name the colors and objects presented on two pages. The objects presented were pencil, star, fish, chair, boat and key. Will seemed to struggle on both of these subtests and his composite score of 61 put him in the <1st percentile rank, which is in the very poor range. He was hesitant and slow while reading through both of these subtests. It should be

noted that Will had somewhat more difficulty when naming colors and objects than letters and numbers, though all were very weak.

The Alternate Phonological Awareness Composite reflects performance on two of the supplemental subtests, Blending Nonwords and Segmenting Nonwords. Will's composite score was 82 which is in the below average range. Both of the subtest scores are within the low average range but, just like in the Elision subtest, Will struggled more with segmenting words than blending. On the Blending Nonwords subtest, Will was dictated segments of a nonsense word (e.g. mō-tāb) and had to blend those sounds together to create a word (mōtāb). On the Segmenting Nonwords subtest, Will was told a nonsense word (e.g. măb) and then told to say it one sound at a time (m-ă-b). Another subtest, Segmenting Words, was not reflected in any composite, but Will struggled with this in the same way he did with Segmenting Nonwords. He demonstrated difficulty breaking the words and nonwords into their individual sounds, especially in the last part of the word. For example, when prompted to say the word "late" one sound at a time he stated "l-ate." For "beast" he responded "b-east." He only segmented the first sound of words, whether the words were real or nonwords. These skills are important to being able to sound out the individual sounds in unfamiliar words when reading and then blend them back together again.

Overall, it was clear that Will's strength was blending sounds together to create words, when he is told each sound that is blended. Will showed clear deficits in the phonological processing skill essential to phonetic reading, being able to listen to a word and determine which sounds are heard, sound by sound. His ability to rapidly bring to mind the sounds/names of letters, colors, and objects he sees in significantly impaired. While phonological segmentation is weak, an even greater area of weakness is rapid naming. Even when Will does know a sound or word, he finds it very hard to retrieve the4se rapidly from memory.

These scores are believed to be an accurate representation of Will's abilities in the area of phonological processing. This was the first test given to Will during a series of tests, so he was attentive and responsive throughout the assessment. In summary, when Will listens to sounds, he has no trouble combining the sounds given to him to create a word. He also has no trouble repeating whole words. However, when listening to a whole word he has trouble figuring out the order of the sounds he hears within the word. This has implications for when he looks at a reading word and has to "pick apart" and remember the sounds in order to sound out the word. Moreover, even when Will does know a sound or the name of a color or object, he has extreme difficulty retrieving the sounds from memory. This presents a major obstacle to being able to quickly and efficiently sound out words.

Gray Oral Reading Test 4th Edition (GORT-4)

The Gray Oral Reading Test (GORT-4) was administered to assess, categorize and analyze miscues and deviations from print when Will reads aloud. Will scored below the first percentile for his age with respect to reading rate, accuracy and fluency, with standard scores of

2, 1, and 1 respectively (10 is average). Reading comprehension scores fell in the second percentile for his age with a standard score of 4. Will willingly read the first paragraph of five, two to four word sentences, however was overwhelmed by the following paragraph of five, four to nine word sentences. He demonstrated sincere effort after being encouraged to "try his best." When miscues were categorized it was found that Will self-corrected 12% of the errors and relied on multiple methods for trying to decode 44%, miscues with meaning similarity 20%, function similarity 58%, and graphic/phonemic similarity 76%.

Phonics Inventory

A letter name and sound assessment was used to directly assess Will's phonetic decoding knowledge. The results showed that Will knows all of the names and sounds of the consonants except for j (he said g) and y (he said u), and he tends to reverse b and d. He had some difficulty with vowels, particularly with the short sounds for u and o. He knew four out of six digraphs (ch, th. sh. ck)and three out of 20 vowel teams (ee, ir, ar). Seven times during the vowel team assessment Will said a word instead of a sound.

Key

Known	/
Known with prompting	*
Error	Answer given
Unknown	-
Fluent word	!

Consonants

	s	m	h	l	f	v	k	n	p	c	w	b	q	t	y	j	r	g	x	d	z
Name	/	/	/	/	/	/	/	/	/	/	/	d	/	/	u	g	/	/	/	b	/
Sound	/	/	/	/	/	/	/	/	/	/	/	d	/	/	-	/	/	/	/	b	/

Vowels

	a	e	i	o	u
Name	/	/	/	/	/
Sound	/	/	/	oo	ya

Digraphs

Ch th sh wh   ck ph

```
Name    /    /    ch   /      /    /
Sound   /    /    /    with   /    -
```

Vowel Teams

```
        Ee  oi  ou  oy     ay   ur    ir  ew  oa  er   ar  or
Name    /   /   /   /      /    /     /   /   /   /    /   /
Sound   /   -   -   open   -    your  /   -   -   eer  /   your
```

```
        Oo  ie  ea  oe  au   ai  aw   ow
Name    /   /   /   /   /    /   /    /
Sound   -   -   -   ee  use  -   use  oh
```

To further assess Will's ability to recognize words, he read thirty five words from six syllable types: closed, open, final "e," vowel team, vowel + *r* and consonant + *le*.   Five words Will read fluently (perhaps showing sight word memorization). Will correctly read all four final 'e' syllable words, and three out of five consonant + le words (reversing b and d – bubble to buddle). Often with closed syllable words Will would try the long vowel sound first. He was successful on 3 of 10 closed syllable words and 2 more when prompted. Will read 6 out of 10 vowel teams.

Closed syllables

```
sat    Back   hid   shop   nut   class   lift   spot    puff   shelf
state  /      had   /      next  claze   /      spote   *      *
                                                spout
```

Open syllables

```
me   go   Try
!    !    tree
```

Final "e" syllables

```
safe   Shade   time   joke
/      /       /      /
```

Vowel team syllables

```
feed   rain   team   pie   play   flew   out   zoo   toy   bread
/      ran    time   /     !      flea   !     !     !     brad
```

Vowel + *r* syllables

far	bark	twirl	fur	stern
from	beark	-	from	steern
frame	bake			

Consonant + *le* syllables

little	Table	bubble	eagle	apple
!	/	buddle	eggs	/

      Overall on the GORT-4, Will demonstrated beginning first grade reading skills with mastery of most consonants and long vowel sounds. Other basic phonics skills present great challenges to Will.

Key Math Diagnostic Assessment- Third Edition (Key Math 3)

      The Key Math Diagnostic Assessment- Third Edition (Key Math 3) is a comprehensive diagnostic assessment of mathematical skills. The assessment is organized into three main components of mathematical skills that are further divided into specialized subtests. The three main components are Basic Concepts, Operations, and Applications.

      The Basic Concepts scale assessed Will's foundation of mathematical knowledge in Numeration, Algebra, Geometry, Measurement, and Data Analysis/Probability. The Numeration subtest measures an individual's understanding of such basic mathematical concepts as whole and rational numbers. Topics covered include: identifying, comparing, and rounding numbers, fractions, decimals, and percentages. The Algebra subtest measures an individual's understanding of pre-algebraic and algebraic concepts. Topics covered are: sorting, classifying, and ordering. The Geometry subtest is used to measure an individual's ability to analyze, describe, compare, and classify two and three-dimensional shapes. The Measurement subtest measures an individual's ability to compare objects on a variety of characteristics and to use non standard and standard units to measure these characteristics. It includes measuring angles, sequencing events, estimating and measuring time, and manipulation of money. The Data Analysis and Probability subtest measures an individual's ability to collect, display, and interpret data as well as understand the concepts associated with chance and probability. This subtest required Will to read and interpret tables, tally charts, and estimate quantities. Will's results on the Key Math 3 Basic Concepts scale compared to others his own age are listed below.

Subtest	Standard Score	%tile	Grade Equiv	Age Equiv	Classification
Numeration	5		1.8	7.3	Below Average
Algebra	6		2.2	7.4	Below Average
Geometry	11		4.8	9.1	High Average
Measurement	7		2.4	7.9	Low Average
Data Analysis and Probability	7		2.8	8.1	Low Average
Mean = Scale Score of 10, Standard Deviation of 3					
Basic Concepts	**86**	**18**	**2.7**	**7.11**	**Low Average**

Mean = Scale Score of 100, Standard Deviation of 15

Will scored below average with a scaled score of 5 on the Numeration subtest which is equivalent to that of a 7 year and 3 month old (he is 9 and 4 months). Will was able to read numbers and compare quantities, but struggled visualizing how many more he needed for a certain amount. One item he missed was, when given 2 dots, how many more dots were needed to make 5. However, he did get a similar harder question right; when given 4 dots, he knew that 6 more dots would make 10. Will did well at number sequencing and was able to fill in the missing numbers on the hundreds chart. He missed an item that required him to find 3 stacks that together make 8 cubes. On many items Will seemed not to look at the pictures or think about them long enough before he gave an answer.

Will scored below average on Algebra, receiving a scaled score of 6. He scored at the 7 year and 4 month age level on this subtest. Will was able to group similar items, complete basic patterns, sequence logical events, and complete number sequencing. The harder items he missed were: find the missing number 27 30 33 36 39 ? 45and if one triangle equals 2 circles, then 5 triangles would equal how many circles?

Will earned a scaled score of 11 on Geometry which was in the high average range. He scored at a 4.8 grade level and 9 years and 11 month age level. The visual nature of the items on this subtest seemed to assist him, in contrast to the heavier listening component on the prior subtests. One of the difficult items he got was looking at a cube design, he had to pick which design would be the reflection. He was good at looking at visual details from multiple perspectives.

On Measurement Will earned a scales score of 7 which was low average. This performance was equal to a 7 year and 8 month age equivalent. He was able to point out different size objects and categorize them from shortest to tallest. Also, he did well with ordering the days of the week and sequencing events. Will had difficulty with items comparing the height and size of 2-dimensional figures. He was able to read the time on clocks and count change. Will counted a dime, two nickels and 4 pennies, but later could not tell how many nickels equaled 20 pennies. Also he could not use 2 coins to make 15 cents or count money to equal $12.48. Will struggled on all items involving money except for one.

Will received a scaled score of 7 on the Data Analysis and Probability subtest. This placed him in the low average range, with an age equivalent of 8 years and 1 month. Will was able to do basic counting, compare amounts, and predict. He was able to interpret information from a picture graph but not from a tally. Will was able to read a bar graph and tables, but struggled to complete a 2x2 table of flowers and a picture graph when a key was given. He demonstrated difficulty with reading information from a circle chart, mileage chart, and a line graph.

Will received an overall standard score of 86 for the Basic Concepts area, indicating that he is at or above 18 percent of his same-age peers in regards to basic math knowledge. These results placed Will in the low average range of Basic Concepts understanding.

The Operations subtests of the Key Math were given to Will to assess his written and mental computation skills with Mental Computation and Estimation, Addition and Subtraction, and Multiplication and Division. The Mental Computation and Estimation subtest measures Will's ability to mentally compute answers to math problems using addition, subtraction, multiplication, and division operations. Also, it covers problems with one, two, or three digit numbers, fractions, decimals, and percentages. The Addition and Subtraction subtest measures written procedures dealing with adding and subtracting whole numbers, both 2 and 3 digit ones, fractions, mixed numbers, and decimal values. Multiplication and Division focus on written procedures and concepts in multiplying and dividing one and two digit numbers, whole and rational numbers, fractions and decimals. Will's results on the Operations subtests are compared to others his age in the chart below.

Subtest	Standard Score	%ile	Grade Equiv	Age Equiv	Classification
Mental Computation/Estimation	3		1.0	6.4	Well Below Average
Addition and Subtraction	4		2.0	7.3	Below Average
Multiplication and Division	5		2.6	8.1	Below Average
Operations	**69**	**2**			**Well Below Average**

Will scored well below average on the Mental Computation and Estimation subtest with a scaled score of 3, age equivalent of 6 years and 4 months, and a 1.0 grade equivalent. This was Will's lowest score of all the subtests. He was able to do basic mental adding of 2 and 1 more, 5

and 5, and subtraction of 5 take away 2. Then he missed the remaining items: what is 6 and 10 more, add 2 numbers to make 8, what is 6 plus 4 plus 3, and what is 10 plus 5 plus 1. Will appeared to rush to answer instead of taking time to problem solve. At other times he just gave up and did not answer.

Will scored borderline on the Addition and Subtraction subtest receiving a scaled score of 4, age equivalent of 7 year and 3 months, and a grade equivalent of 2.0. He got the first three items correct, 2 plus 1, 0 plus 4, and 7 minus 0. He missed 5 plus 3, and got 3 minus 1, and 9 minus 9 correct. Then he missed 8 plus 7, and got 12 minus 6, but missed again 13 plus 6, 12 plus 8, and 45 minus 4. Will got 18 plus 72 right, then missed 30 minus 9, 34 plus 69, and 606 plus 98. He got 70 minus 19, but missed 83 minus 16, 206 minus 35, and 238 plus 27 plus 865. He did get 800-692, but missed the rest of the items that involved decimals and fractions. Fatigue may have been a factor.

On the Multiplication and Division subtest Will earned a scaled score of 5, which was below average. His age equivalent was 8 years and one month, and his grade equivalent was at a 2 and 6 month level. He missed 4 times 1, got 5 times 2, missed 4 times 3, got 6 times 0, and missed 4 times 6, 4 divided by one, 30 divided by 5, and 6 times 7. Will said that his class had not yet covered division.

Will received an overall standard score of 69 on the Operations section of the Key Math assessment. This indicated Will is at the 2nd percentile, meaning he is at or above 2 percent of his same aged peers in regards to his mental and written computation mathematics skills. These results placed Will in the well below average range.

The last area was Applications, which assessed Will's ability to apply conceptual knowledge and operational skills to solve everyday practical problems. The subtests in this area included Foundations of Problem Solving and Applied Problem Solving. The Foundations of Problem Solving subtest included items requiring Will to identify missing elements in a problem, operations needed to solve the problem, and the optimal strategies used to solve a problem. This also assessed Will's readiness for applied problem solving. It placed emphasis on Will's ability to explore different elements to arrive at a solution. The Applied Problem Solving subtest measures Will's ability to interpret problems set in a context such as time, money, measurement and apply computational skills and conceptual knowledge to produce a solution. Will's results on the measure compared to others his own age is listed below.

Subtest	Standard Score	%ile	Grade Equiv	Age Equiv	Classification
Foundations of Prob. Solving	6		1.8	7.4	Below Average
Applied Problem Solving	5		1.5	6.8	Below Average
Applications	**74**	**4**			**Low Average**

Will scored below average on the Foundations of Problem Solving subtest with a scaled score of 6, age equivalent of 7 years and 4 months, and a grade equivalent of 1 year and 8 months. He was able to add using his fingers, identify which groups totaled 5, and identify what operation he should use (add or subtract). Will struggled with items finishing a story using 7 minus 4 equals 3, identifying the number sentence, and telling a story using subtraction. It was hard for Will to come up with ideas to fit into a math story when he did not have anything in front of him to work with.

On Applied Problem Solving Will scored below average again with a scaled score of 5, age equivalent of 6 years and 8 months, and a grade equivalent of 1 years and 5 months. He was able to identify items asking about quantity or categorizing items into a group, but struggled on items identifying shapes, selecting what is next in the sequence, what pairs totaled 8, and following a sequence to arrive at a solution.

Will received an overall standard score of 74 on the Applications section of the Key Math assessment. He scored in the 4th percentile, meaning that Will was at or above 4 percent of his same aged peers, which is borderline.

On the total test Will earned a standard score of 77, placing him at the 6th percentile, at or above 6 percent of his same aged peers, and below average on the assessment overall. Areas Will did well on were Geometry, perhaps because he had a visual to look at throughout the section, and he did better with visual prompting than having to listen and aurally process the information. Will was able to read whole numbers, compare quantities and qualities, complete basic written addition and subtraction, and was able to categorize items into groups. He struggled when it came to what is next in the sequence, inferring about graphs that required him to plug in the missing amounts, or completing multiplication and division. Will also struggled on doing mental addition and subtraction computation. Will used his fingers a lot to count during the test, and at times used his fingers to count the quantities on the easels.

Neuropsychological Assessment

The NEPSY II is a neuropsychological assessment battery designed to assess cognitive functioning. This test is designed to assess basic subcomponents of cognitive capacities as well as complex aspects of emerging cognitive capacities. The test was administered in two different parts over two sessions. The test is divided into the domains of Attention and Executive Functioning, Memory and Learning, and Language, Visuospatial Processing and Sensorimotor skills. The scaled scores for the subtests have a mean of 10 and a standard deviation of 3.

Attention and Executive Functioning

Subtest	Scaled	Classification

	Score	
Animal Sorting Total	14	Above Expected Level
Animal Sorting Combined	14	Above Expected Level
Auditory Attention Total	6	Below Expected Level
Auditory Attention Combined	6	Below Expected Level
Response Set Total	6	Below Expected Level
Response Set Combined	5	Below Expected Level
Clocks Total	7	Below Expected Level
Design Fluency	6	Below Expected Level
Naming Total	7	Below Expected Level
Naming Combined	7	Below Expected Level
Inhibition Total Time	14	Above Expected Level
Inhibition Combined	6	Below Expected Level
Switching Total	10	At Expected Level
Switching Combined	6	Below Expected Level
Inhibition Total Errors	3	Below Expected Level

Mean=10, Standard Deviation=3

The subtests in this section are designed to assess motor persistence, the ability to inhibit impulsive responding, selective auditory attention, the ability to adopt, maintain and change set; the ability to formulate concepts and transfer the concepts into action; and the ability to initiate and self-monitor behavior. Will's below expected level scores on many subtests suggest that Will has poor selective and sustained attention, responds impulsively, has poor working memory, planning and organization, impaired initiation and productivity, and poor cognitive flexibility.

Throughout the administration it seemed that Will was more concerned with getting through the activities quickly rather than accurately. During the Auditory Attention and Response Sets, Will was attentive at the start but had difficulty sustaining that attention through the entire activity. Directions had to be clarified several times during administration of many of the subtests, suggesting that Will had a difficult time processing directions presented verbally. Will showed increased understanding during trial teaching when asked to repeat the directions in his own words.

Animal Sorting: Animal Sorting is a measure of executive functioning assessing initiation, cognitive flexibility and self-monitoring. It also provides the clinician with an assessment of a child's ability to formulate and implement concepts. Will performed above the expected level on

this task, with a scaled score of 14. The student is to separate a set of eight cards with pictures of animals on them into two equal groups of four cards each, based on similarities the student sees in the cards. The student is instructed to make a different sort each time until he cannot do so anymore. At first, Will did not understand that he had to have four cards in each group. His first sort consisted of animals that were found on the continent of Africa and those that were not. There were two cards in the Africa group and six in the non-Africa group. After explaining the directions again Will understood that he had to have four cards in each group and was able to complete the test successfully. It appeared that Will had difficulty understanding verbal directions when they are given only one time and needed them repeated to truly understand what was asked of him.

Auditory Attention and Response Set: These subtests are designed to measure selective and sustained attention, response inhibition and executive functioning. Auditory Attention requires adequate registration of information in working memory in order for the child to respond correctly. Response Set assesses the ability to shift to and then maintain a new, more complex mental set, to multitask in working memory and to inhibit the impulse to respond in the same way as in Auditory Attention or in accord with the visual stimulus.

During the Auditory Attention task Will had to listen to a CD of words. Whenever he heard the word "red" he had to tap his finger on a red circle. Will scored below the expected level with a scaled score of 6. This indicates that Will has difficulty sustaining his attention and that he is easily distracted. On the Response Set task Will had to listen to a CD of words again. This time, when he heard "red" he had to tap a yellow circle, when he heard the word "yellow" he had to tap a red circle and when he heard the word "blue" he had to tap a blue circle. Will scored below the expected level on this test. His score indicates that Will has poor sustained attention during high cognitive load activities that require multitasking in working memory; he also has poor ability to shift set along with poor response inhibition.

The Auditory Attention subtest was repeated during the trial teaching period with additional practice beforehand with much success. Will was read the directions verbally and then asked to repeat what he was asked to do in his own words. Then Will practiced touching the red circle every time the word "red" was said. The administrator said the word "red" over and over and Will successfully touched the red circle each time. The administrator then read a list of words where "red" was said every other word, Will also completed this successfully. After this practice the CD was played and Will was able to touch the red circle each time "red" was said. This shows that with increased practice and focused attention, Will is able to complete a task that he struggled with previously when no practice was given.

Clocks: This subtest is comprised of tasks that target executive functions such as planning, organization, and self-monitoring. It also assesses complex visuoperceptual and visuospatial skills and the concept of time. Will scored just below the expected level, one standard deviation below the mean. A low score on this subtest suggests poor planning and organization. This was evident at the beginning of the subtest when Will was asked to draw a clock and point the hands at a specific time. At first he put all numbers onto the right side of the clock. However, he

improved each time he was asked to repeat this task with a different time. This suggests that Will may need multiple tries at a given task to perform to the best of his ability.

Design Fluency: This subtest assesses the child's ability to generate novel designs quickly on structured and unstructured arrays. Design Fluency measures initiation, productivity, and cognitive flexibility using nonverbal stimuli. Will was required to connect dots to form different designs. He scored below the expected level of performance, indicating a poor ability to generate ideas in relation to the task. Will had difficulty recalling the drawing rules required on the task. Will approached this task in a haphazard manner. It did not appear that he implemented a strategy or followed a pattern during this task. This may reflect how Will approaches tasks in the classroom as well.

Inhibition: The Inhibition subtest is designed to assess multiple aspects of executive functioning including inhibitory control, cognitive flexibility and self-monitoring. In this test Will had to identify circles and squares. On the next part of the test he had to call squares circles and vice versa. In the final test Will had to identify colored in shapes as their shape and outlined shapes as the opposite shape. These tests were also repeated with arrows pointing up and down. The last 7 scores on the table represent scores on this subtest. Will's performance indicated that Will was fast at identifying the shapes and arrows, but was not correct on many of the items. This indicates that Will has poor self-monitoring and an impulsive response style when completing these kinds of tasks.

The Switching portion of the subtest was repeated with pre-test practices during the trial teaching period with great success. The directions were told verbally to Will and he was asked to repeat what was required of him, which he did successfully. Then Will practiced calling a sheet of squares circles and a sheet of circles squares. It was stressed to Will before he began the test that time was not important and it was more important to be correct with naming the shapes according to the rule. Will successfully called all circles squares and all squares circles and he completed the task in 47 seconds as opposed to 46 seconds with several errors during the initial administration. Will was much calmer when completing the test during the trial teaching. This shows that Will needs more practice on tasks that require adherence to specific rules. After this practice Will is able to do the tasks successfully but he does need to be primed in order to perform to the best of his ability.

Memory and Learning

Subtest	Scaled Score	Classification
List Memory & Delayed	2	Below Expected Level
Memory for Designs	11	At Expected Level
Memory for Designs Delayed	9	At Expected Level

Memory for Faces	7	Below Expected Level
Memory for Faces Delayed	9	At Expected Level
Memory for Names	5	Below Expected Level
Memory for Names Delayed	3	Below Expected Level
Memory for Names & Delayed	4	Below Expected Level
Narrative Memory Free & Cued	8	At Expected Level
Word List Repetition	3	Below Expected Level
Word List Recall Total	7	Below Expected Level

Mean=10, Standard Deviation=3

The subtests in this section of the NEPSY II are designed to assess short term and delayed memory with visual and auditory stimuli. Additionally these tests assess Will's ability to learn a new task. Tests in this domain assess different aspects of verbal and nonverbal memory and learning.

One of Will's best performances was on the Narrative Memory Free and Cued Recall subtest. This is an activity where a story was read to Will and he was asked to tell as much information as he could remember immediately after hearing it. Will also did well on the Memory for Designs Test and Memory for Faces Delayed measure. Based on performance and observations during administration it seems that Will is more successful when interacting with visual stimuli alone rather than with both verbal and visual stimuli at the same time. Will was successful in remembering design patterns and faces but struggled to remember a list of dictated words and names that went with pictures of people. This suggests that Will has difficulty with verbal memory for unconnected information and also has difficulty learning language labels to match with visual symbols. Both of these skills are required when decoding.

Since Will did well on the narrative memory test, this suggests that he may do well with verbal information presented in context rather than in isolation. Will's very poor List Memory and Name Memory performance reflected very weak retention when the items to be remembered are not presented in a meaningful context. Will's delayed memory scores were better than immediate memory, suggesting that memory may improve when he is given time to consolidate the information in his memory.

List Memory: This subtest measures how well a child gets verbal information in and out of long-term memory stores and how well he is able to actively memorize verbal material. Will was required to memorize a list of words, and was given several trials. List Memory assesses verbal memory, the ability to recall what was learned through rote repetition, and the impact of interference effects in delayed recall. Will scored below the expected level on this subtest. However, this is not an accurate representation of Will's performance on the test. He

misunderstood the directions to repeat as many words as possible each time he was asked to repeat the list. Instead Will repeated words he did not remember to carry over words to subsequent trials. Will experienced a large positive delay effect. This means that he was able to remember more words after the delay period than during the initial recall period. While we were not able to get an accurate score of Will's performance, but it was evident that Will struggled to remember the words that were read to him. This is consistent with previous findings that Will has difficulty processing information that is given verbally and when required to memorize information that is unrelated.

Memory for Designs: Memory for Designs is a visual learning task designed to measure a child's memory for spatial locations and visual detail. This test assesses spatial recall, visual content recognition, and overall visuospatial memory. Will scored at the expected level with a scaled score of eleven on the immediate recall measure and a nine on the delayed recall measure. Compared with the other memory tasks this shows that Will does best with visual rather than with verbal stimuli.

Memory for Faces: This subtest is designed to assess face discrimination, recognition, and long-term memory for faces. Will earned a scaled score of seven on the Memory for Faces test and a scaled score of nine on the delayed measure. Compared with the verbal rote memory tasks, Will did significantly better on this visual task. He did score slightly below the norm but showed improvement on the delayed measure, where he fell within the normal range with a score of nine. The improvement between the immediate recall and delayed recall highlights the fact that Will's memory improves when given time to consolidate the given information.

Memory for Names: The purpose of this test is to assess learning and delayed recall of names over a series of trials. This test indicates the degree to which a child readily learns the association between a visual stimulus and its verbal label. Will scored a scaled score of five on the immediate recall measure and a scaled score of three on the delayed recall measure. This indicates that Will has difficulty remembering stimuli that are presented both visually and aurally, and that he has difficulty learning and retrieving verbal labels for visual information. This visual-verbal association is critical to reading success.

Narrative Memory: Narrative Memory assesses immediate story memory under free and cued recall. This subtest requires the ability to listen attentively to extended prose, to comprehend what is heard, and to organize and retrieve this information. The free recall trials require adequate expressive language functioning as well as receptive understanding. Cueing serves to prompt recall. Will earned a scaled score of eight on this measure, at the expected level. This indicates that there is a difference between Will's narrative memory skills and his rote memory skills. It appears that because the information is presented in a coherent, related manner he is able to remember more of it than when required to remember rote words or facts. Presenting material in context for Will will likely help with his ability to remember information.

Word List Interference: This test was developed as a measure of word repetition and working memory. The child is read a brief sequence of unconnected words and asked to repeat them. The child then repeats a second series of words. Thereafter, the child is asked to say the first word

list and then the second list. In this way, the second word list acts as a source of interference for the recall of the first word list and vice versa. The test works as a complex working memory test that requires both repetition and short-term memory for verbal material, as well as requiring the holding of this verbal material active in memory during a cognitive operation. Will received a scaled score of three on the repetition measure. This indicates that Will may have a limited capacity in working memory. Will earned a scaled score of seven on the recall measure, which is just slightly below the expected level. This indicates that for his memory span, Will has difficulty managing competing information in working memory. It was found that Will has a threshold of about 4 pieces of information that he is able to repeat before becoming overwhelmed.

Overall it seems that Will has weaknesses in auditory attention. He had difficulty in following directions and attending to auditory tasks. He also experiences weaknesses in executive functioning (planning and organization). Will was successful in many of the Inhibition initial activities but had difficulty when asked to apply new rules to the activities. He may need to practice tasks several times before being able to perform to the best of his ability, especially when tasks are similar but slightly different from one another. Will did relatively better with activities that required memory for visuals rather than verbal memory. His verbal memory improved when information was presented in context.

Throughout the duration of the Inhibition activities as well as the Design Fluency tasks Will exhibited impulsivity. Rather than listening to directions Will wanted to get started on the activity and assumed the directions would be the same, when in fact they had changed. This was also evident on the Clock subtest. Will did not take time to plan where the numbers on his clock would go and this resulted in his clocks not being drawn with evenly spaced numbers After repeated trials Will's planning improved, again indicating that Will needs to practice tasks to perform to the best of his ability. While Will appeared to be motivated at the beginning of the testing session, this quickly decreased when he knew he was getting incorrect answers; it was clear that he wanted to get through the activities quickly rather than take time to try to give accurate answers. This shows that Will can get frustrated easily. He needs to experience success to stay motivated. It is also evident that speed is important to Will. He thinks that completing a task quickly is an indicator of success. Stressing that a task done correctly, even though it may take longe,r is an important message to send to Will. He performs much better when given opportunities to practice and time constraints are done away with.

Language, Perception, Motor Skills

Subtest	Scaled Score	Classification
Comprehension of Instructions	9	At Expected Level
Word Generation	10	At Expected Level
Block Construction	11	At Expected Level
Design Copying	15	Above Expected Level

Geometric Puzzles	9	At Expected Level
Finger Tappin (Dominant)	9	At Expected Level
Finger Tapping (Non Dominant)	12	At Expected Level
Visuomotor Precision (Combined)	4	Below Expected Level

Mean=10, Standard Deviation=3

Comprehension of Instructions: The Comprehension of Instructions subtest assesses the ability to process and respond to verbal instructions of increasing complexity. It correlates with measures of language, verbal working memory, and sequential reasoning. In this test, the child is shown shapes of different colors and is told to touch certain ones, becoming more complex as the subtest goes on. For example, two directions are given at a time and that number is increased gradually until they are given four or five directions. Will's performance on this subtest was within the average range for his age. He obtained a scaled score of 9. He successfully completed 10 out of 20 tasks, often completing all of the instructions but sometimes not in the order given. If he did not complete the directions in the correct order he did not receive credit. He was able to complete four directions in a row but struggled to complete five.

Word Generation: The Word Generation subtest tests the ability to generate words using semantic categories and with initial letter prompts. Semantic fluency and initial letter fluency require rapid retrieval of words and verbal production. Will was asked to list as many words as he can in sixty seconds, first in a category and then when given the initial letter. Will's performance on this subtest was within the average range. He obtained a scaled score for semantic word generation of 8 and a score of 9 for initial letter word generation. These scores were then combined to get a scaled score of 10. For the first semantic list (animals), Will gave 12 words and on the second semantic list (food), he gave 9 words. On the first initial letter list ("S" words) Will gave 10 words and on the second initial letter list ("F" words) he gave 4 words.

Block Construction: The Block Construction subtest taps the ability to reproduce three-dimensional block constructions from pictures. It requires integration of visuospatial skills with motor activity. In this test, Will was shown three-dimensional pictures of blocks and must replicate them in sixty seconds or less. Will's performance on this subtest was within the average range. He obtained a scaled score of 11. Out of the twelve block constructions he was asked to make, he was only unable to replicate one and took longer than the allotted time on two. On most, he finished well before the sixty seconds and was eager to begin building the next one. Will's visual perception skills are average for his age.

Design Copying: The Design Copying subtest assesses visuoconstructional ability and visuomotor integration. Planning and execution are additional processes that ensure all elements are placed correctly in the drawings. The child must look at and analyze two-dimensional designs and copy the image using a pencil and paper. It seemed like Will really enjoyed this task and tried his best to accurately replicate the designs. Will's performance on this subtest was above the average range. He obtained a scaled score of 15, which are strong for his age.

Geometric Puzzles: The Geometric Puzzles subtest assesses nonmotor aspects of visuospatial perception. In this test, the child must analyze and compare geometric aspects of figures. The child is given forty-five seconds to look at a picture containing several different geometric shapes. He must identify which two shapes match shapes that are outside of the puzzle. Partial points can be earned for identifying one of the two shapes. Will's performance on this subtest was within the average range. He obtained a scaled score of 9. Out of the 14 puzzles that he was shown, he was only unable to identify either of the two shapes in four instances. On five of the puzzles he was able to identify just one of the matching geometric shapes and on the other five, he was able to identify both of the shapes. Will has average visuospatial perception skills for his age.

Finger Tapping: The Finger Tapping subtest assesses finger dexterity and is used to identify fine-motor coordination abilities. In this test, the child quickly taps the tip of the index finger against the pad of the thumb 20 times (simple movement). The child also then taps the fingers sequentially against the thumb from index to little finger as quickly as possible (complex motor movement). Will's performance on this subtest was within average ranges. His scaled score for his dominant hand was a 9, while the nondominant hand had a scaled score of 12. His score for finger tapping repetitions was a 12 and the finger tapping sequences scaled score was a 9. Overall he showed that he has average sensorimotor abilities for his age.

Visuomotor Precision: The Visuomotor Precision subtest assesses fine graphomotor skills in a timed task. Both precision and speed are measured. The child draws a line through a straight or curved track as fast as possible while attempting to remain inside the track lines. Will was given 180 seconds for each item and errors are counted when his pencil leaves the lines of the track. Will's performance on this subtest was within the average range for time completion. He obtained a scaled score of a 10. However, his combined score was below the average range due to the number of errors that were made drawing the line through the track. On the first item, he only made two errors while on the second one he made forty-eight errors. This brought his combined scaled score down to a 4, which is in the below average range. It was obvious on the first item that Will was taking his time and trying to stay within the lines, but he seemed to rush through the second item.

Overall, Will showed that he is performing in the average range for his age in language and sensorimotor abilities. He also showed that he has strong visual perceptual skills for his age.

Behavioral Assessment

The Conners Behavior Scale

The Conners behavior scale is an assessment of Attention-Deficit/Hyperactivity Disorder (ADHD). The Conners scale is a multi-informant assessment of children and adolescents between 6 and 18 years of age that takes into account home, social, and school settings. This assessment includes a self-report, teacher, and parent rating scales that ask raters to consider behaviors during the past month. Parent ratings reflect the child's behavior at home and in other

environments where the parent has the opportunity to observe the child. Teacher ratings reveal observations on the child's academic, social, and emotional behaviors in the school setting. Self-report ratings collect a third source of information that can supplement parent and teacher reports by providing the youth's own insight into his/her functioning.

The Conners scale includes three validity scales that analyze whether the results may be invalid due to trying to make a positive impression or negative impression, or if the scores are inconsistent. The parent scale is scored for Inattention, Hyperactivity/Impulsivity, Learning Problems/Executive Functioning, Aggression, Peer Relations, ADHD Inattentive, ADHD Hyperactive, Conduct Disorder, and Oppositional Defiant Disorder. This rating scale results in T-score that compare Will's performance to what is typical for his age and gender. A T-score of 50 is average and the standard deviation is 10. A T-score of 70+ indicates a very elevated score (many more concerns than are typically reported for Will's same age peers). A T-score of 65-69 is an elevated score (more concerns than are typically reported). T-scores of 60-64 are considered a high average score (slightly more concerns than are typically reported). A T-score of 40-59 is average (typical level of concern), and a T-score of < 40 is low (fewer concerns than are typically reported).

Mrs. Lamarca, Will's mother, completed the **Parent Scale** at her home. Mrs. Lamarca was to answer the questions on the report by rating a 0, 1, 2, or 3 for each item. 0 meant in the past month this was not true at all about Will, 1 meant this was just a little true, 2 meant this was pretty much true, and 3 meant this was very much true. The following table shows raw scores, T-scores and classifications for all the categories on the parent scale.

Conners Parent Rating Scale

Scale	Raw Score	T-Score	Percentile	Classification
Inattention	12	64	84-92	Above Average
Hyperactivity	15	61	84-92	Above Average
Learning Problems	13	71	98+	Very Above Average
Executive Functioning	9	54	16-83	Average
Aggression	3	55	16-83	Average
Peer Relations	3	58	16-83	Average
Global Index Total	11	62	84-92	Above Average
ADHD Inattentive	12	63	84-92	Above Average
ADHD Hyperactive	11	58	16-83	Average
Conduct Disorder	1	50	16-83	Average

| Oppositional Deficit | 7 | 62 | 84-92 | Above Average |

Mean = T-score of 50, Standard Deviation = 10

Will was scored by his mother in the average range for Executive Functioning, Aggression, Peer Relations, ADHD Hyperactivity, and Conduct Disorder. He scored above average in Inattention, Hyperactivity, ADHD Inattentive, and Oppositional Defiant Disorder. Will's T-score was a 64 for Inattention which put him in the 84-92 percentile compared to his peers. This percentile rating means that Will's mother observes his inattention to be higher than 84-92 percent of other boys Will's age. Items scored high (2 or 3) for Inattention were: doesn't pay attention to details, inattentive, easily distracted, and gives up easily on difficult tasks. His T-score for Hyperactivity was a 61, which put him in the 84-92 percentile again compared to his peers. The items scored high (2 or 3) were: fidgeting, excitable, impulsive, blurts out the first thing that comes to mind, and is noisy and loud when playing in free time. Will's T-score for ADHD Inattentive which compared his ratings to the recognized American Psychiatric Association (APA) definition of ADHD was a 63, also in the 84-92 percentile compared to his peers. Items scored high (2 or 3) were: doesn't pay attention to details, and is easily distracted by sights or sounds. His T-score for Oppositional Defiant Disorder as defined by APA was a 62, also fell into the 84-92 percentile range compared to his peers. The items scored high (2 or 3) included argues with adults. Will scored very above average in Learning Problems, with a score of 71 for Learning Problems which put him in the 98th percentile compared with his peers. Items that were scored as high for Learning problems were: spelling is poor, has trouble with reading, and reads slowly and with a lot of effort. This scale included an overall ADHD index based on the ADHD Inattentive and ADHD Hyperactive scores which totaled 6, indicating a 71% probability that Will's scores match those of children identified with ADHD.

Screener items for Anxiety and Depression indicated that these areas merit further investigation. The items Will's mother rated in these categories were worries, trouble controlling worries, nervous or jumpy, irritable, worthlessness, tired, loss of interest, sad and gloomy.

The **Teacher Rating Scale** measures what teachers may say about their student, and has them relate what their student has been like the past month in school. This scale was completed by Will's general education teacher, Mrs. Williams , and the scores are displayed on the table below.

Conners Teacher Rating Scale

Scale	Raw Score	T-score	Percentile	Classification
Inattention	20	76	98+	Very Above Average
Hyperactivity	27	72	98+	Very Above Average
Learning Problems	16	83	98+	Very Above Average
Executive Functioning	16	72	98+	Very Above Average

Aggression	20	88	98+	Very Above Average
Peer Relations	11	82	98+	Very Above Average
Global Index Total	16	75	98+	Very Above Average
ADHD Inattentive	26	77	98+	Very Above Average
ADHD Hyperactivity	15	69	93-97	Very Average
Conduct Disorder	4	68	84-92	Above Average
Oppositional Defiant	11	90+	98+	Very Above Average

Mean = T-score of 50   Standard Deviation = 10

Will scored above average and very above average in all the categories on this assessment. The items Mrs. Williams rated Will very high (2 or 3) on Inattention were: has short attention span, doesn't pay attention to details, gives up easily on difficult tasks, is sidetracked easily, avoids or dislikes things that take a lot of effort and are not fun, has trouble concentrating, inattentive, has trouble changing from one task to another, and has trouble keeping his mind on work or play for long.

On Hyperactivity Mrs. Williams scored Will very high (2 or 3) on: leaves seat when he should stay seated, talks out of turn, interrupts others, is noisy and loud when playing or using free time, gets "wound up," talks too much, has difficulty waiting for his turn, talks non-stop, and gets up and moves around during lessons.

Will also scored very high in Learning Problems on: begins task or project without making a plan, has trouble getting started on tasks or projects, does not remember what he reads, forgets instructions easily, fails to finish things he starts, spelling is poor, has trouble with reading, does not understand what he reads, forgets things already learned, needs extra explanation of instructions, bullies, threatens or scares others and forgets to turn in completed work.

Mrs. Williams rated Will very high (2 or 3) in Executive Functioning on: begins task or project without making a plan, has trouble getting started on tasks or projects, does not remember what he needs, fails to finish things he starts, and forgets to turn in completed work.

Will was rated very high on Aggression as well. Items Will scored a 2 or 3 on under Aggression were: lies to avoid having to do something or to get things, argues with adults, tries to get even with people, annoys other people on purpose, loses temper, actively refuses what adults tell him to do, and gets into trouble with teachers and or school principal.

Mrs. Williams also rated Will very high (2 or 3) on Peer Relations. High scored items consisted of: has no friends, appears to be unaccepted by group, has poor social skills, and is one of the last to be picked for teams or games.

Will also scored very high on items under ADHD Inattentive and ADHD Hyperactivity. These items scored (2 or 3) were: leaves seat when he should stay seated, is easily distracted by sights or sounds, interrupts others, is noisy or loud when playing or using free time, doesn't pay attention to details, mood changes quickly, disturbs other children, talks too much, fails to complete schoolwork or tasks, avoids or dislikes things that take a lot of effort or are not fun, does not listen to what is being said, does not follow through on instructions, has difficulty waiting for his turn, is forgetful on daily activities, loses things, has difficulty organizing tasks or activities, has trouble keeping his mind on work or play for long. This scale included an ADHD index based on the ADHD Inattentive and ADHD Hyperactive scores that totaled 10, which is at the 84% probability that Will's scores match those of children identified with ADHD (standard deviation of plus or minus 10 -- 94% - 74%).

Mrs. Williams rated Will high (2 or 3) on Conduct Disorder. The item was: lies to avoid having to do something or to get things. Mrs. Williams scored Will high (2 or 3) on Oppositional Defiant Disorder items consisting of: argues with adults, tries to get even with people, is irritable and easily avoidable by others, annoys other people on purpose, loses temper, blames others for his behaviors or mistakes, and actively refuses to do what adults tell him to do.

The teacher scale shows more areas of concern (very above average classification) than the parent scale. In school, Will is displaying behaviors that position him very above average, at the 98th plus percentile, in Inattention, Hyperactivity, Learning Problems, Executive Functioning, Aggression, Peer Relations, Global Index Total, ADHD Inattentive, and Oppositional Defiant Disorder. Will scored at the 93-97 percentile in ADHD Hyperactivity, and at the 84-92 percentile in Conduct Disorder. The disparity between the parent and teacher ratings is common in that in school Will is having demands and pressures that are not seen at home. The school environment is where Will struggles more because it is hard for him to stay focused for long periods of time on a task and the school work is frustrating. At home, Will does not have to sit still and focus on one task at a time, he has more freedom in what he does at home than at school. Also, Will is in a large classroom in school with two teachers and 30 students, a setting where it is more difficult for him to concentrate than at home. The clinicians observed Will to have greater attention problems in school than at home.

Will scored very high again on Learning Problems just as with the previous parent scale, with a T-score of 83 in the 98th percentile. He scored very high on Aggression and Oppositional Defiant Disorder. The Negative Impression (NI) teacher scale suggest that the validity of these scores may be in question because the scores were far more negative than is typical.   While the clinicians did observe Will's high inattention, aggressive and oppositional behaviors were not observed in the school, home, or clinic settings.

The Conners **Self Report Short** scale was administered to Will at the clinic, Will gave it his best effort and was focused throughout the assessment. The examiner read the questions to

Will. This report asks Will to think about himself in the past month, and how true these items were for him. The report asks Will some, but not all of the same questions as on the Parent and Teacher scales. The main areas this scale addressed are Inattention, Hyperactivity, Learning Problems, Aggression, and Family Relations. There were a total of 41 questions on this assessment.

Conners Self-Report

Scale	Raw Score	T-Score	Percentile	Classification
Inattention	17	89	98+	Very Above Average
Hyperactivity	6	60	84-92	Above Average
Learning Problems	14	90+	98+	Very Above Average
Aggression	1	48	16-83	Average
Family Relations	3	54	16-83	Average

Will scored very above the average in Inattention and Learning Problems (98th percentile) which were consistent with the results on the Teacher and Parent scales. Will scored above average in Hyperactivity, also similar to results from both the Parent and Teacher scales. Items Will put as very true (3) were; "I struggle to complete hard tasks," "it is hard for me to pay attention to details," "I can't pay attention for long," "I have trouble understanding what I read," "I have trouble with spelling," "I get distracted by things going on around me," "I have trouble finishing things," "I have trouble concentrating," "I have trouble with reading," "I learn more slowly than kids my age," and "I have trouble with math." All of these items indicate a strong sense of Learning and Attention Problems which were consistent with results from the Parent and Teacher rating scales.

The self-report showed that Will feels good about himself and his family relationships and struggles when it comes to school work and staying focused. Will scored very high on Learning Problems across the scales completed by the Parent, Teacher, and Self which strongly suggest that he may have a Learning Disability. Will also scored high in ADHD Inattention across the scales, which matches clinical definitions of ADHD Inattention, because he struggles to stay focussed and on task. Other areas that were high and may be of concern include: Hyperactivity, Executive Functioning, Peer Relations, and Oppositional Defiant Disorder. Areas of Anxiety and Depression may be worthy of follow up with because of responses to specific items on both the Parent and Teacher scales.

Social-Emotional Assessment

Draw a Person: Screening Procedure for Emotional Disturbance

The Draw a Person Test is used to measure nonverbal intelligence or to screen for emotional or behavior disorders. On the DAP: SPED, Will was required to draw 3 pictures: first a picture of a man, second a picture of a woman, and third a picture of himself. For each picture he was allotted 5 minutes to draw the best, most complete picture that he could. Will finished each picture in 3-4 minutes.

The first picture, the picture of the man, is a tall and big figure. His head is small with no hair and the top half of his body is transparent. His body is made up of various shapes, i.e. squares, rectangles, and circles.   One arm is longer than the other and the fingers are drawn on the end of the arms as five circles. There is no distinction between the hand and the arm. There are some shaded areas on the body which includes the legs, area under the belt, as well as the crotch area. He has a smile on his face.

The second picture, the picture of the woman, is a tall and big figure. Her clothes are transparent and her arms, hands, top, and bottom half of her body are shaded (not her legs). Her body is made up of various shapes, i.e. squares, rectangles, and circles. She has a small head, short hair, a long neck, and is wearing high heel shoes. Her hands are circles with circle fingers. She has a smile on her face.

The third picture, the self-portrait, is a tall and big figure. His clothes are not transparent like in the other pictures, and his head is big, unlike the other two pictures. His legs and feet are shaded and his feet are somewhat big. His body is made up of various shapes, i.e. squares, rectangles, and circles. His hand is a circle with circle fingers and he has a smile on his face.

Clinical interpretation of these pictures alert one to features that may be worthy of interpretation, according to Klepsch and Logie in "Children Draw and Tell." Large drawings that take up a whole page are often drawn by children who are aggressive and who have poorly developed inner controls. Although none of Will's pictures take up the entire page, they do take up most of it. Shy and timid children with poor self concepts will also draw big figures, expressing their wish to be more powerful and noticeable. Parts on a body that concern a child are often either overemphasized or underemphasized. Large and small heads often are drawn by individuals who feel that they are intellectually inadequate. The picture of the man and the woman both had a small head. Will's picture of himself is the only picture that had a big head. A large head is often seen in the drawing of an individual who wishes that he were smarter or more able to achieve. Will's picture of himself is the only picture that contains vacant eyes. The picture of the man and woman contain eyes that are colored in. The drawing of vacant eyes with no pupils is often drawn by individuals with visual processing learning problems or who have difficulty in meeting people and socializing.

In the picture of the man and the woman, each has an arm that is longer than the other. In the picture that Will drew of himself his arms appear to be short. Small arms may be drawn by children who fear power and see themselves as weak and perceive a lack of personal

achievement, without any hope for power. In Will's picture of himself he drew big fee, often associated with wanting security.

According to Klepsch and Logie, shading is always related to anxiety. All three pictures had some sort of shading. If there is a specific part shaded in a picture then the anxiety may be specifically related to that part. In Will's picture of the man and of himself the legs are shaded, which could be interpreted as anxiety around a lack of support. Will's feet are shaded as well. The majority of the picture of the woman is shaded which gives the impression of overall anxiety all over. Both the picture of Will and the picture of the woman are drawn on a baseline. Children who draw a baseline for their drawings are often requiring security or support. The fact that Will did this for the picture of the woman and his self portrait and not the man could possibly represent that he feels that there is a need for more security and support for himself and maybe his mother, but the man (who may represent his father) in his eyes may be more independent and secure.

Draw Your Family

For the draw your family activity Will was asked to draw a picture of his family, however he felt his family looked. In the picture he drew his dad, mom, sister Jaime, and himself. Each one of them was standing in a row in the order listed above. The picture of each individual does not have much detail. Their bodies are squares, their necks and legs are rectangles, and their heads, fingers, and feet are circles. Everyone is standing side by side in the picture, the dad is the only one in the picture who has two arms because he is on the end. The dad has one arm to his side and the other arm around the mom, the mom has her arm around the sister, and the sister has her arm around Will. Will is at the other end and he is the only one in the picture who has no arms. The dad is the tallest person in the picture, and then the mom is a little shorter than him, the sister is a little shorter than the mom, Will is a lot shorter than the sister and everyone else. Each person in the picture has a smile on their face.

At the bottom of the picture there is a line that goes across the page and under the line there are four pets, two dogs and two cats. One is a dog that died, another is of a dog and cat that have run away, and one is of a cat that he now owns. Just looking at the pictures you can't tell that the drawings represent dogs and cats. They have an oval body, a neck, and a head. Two of the pictures have ears and the other two don't. The faces on the pets are not completely drawn and none of the pets have any legs.

Klepsch and Logie (Children Draw and Tell) emphasize that parts of a body that concern a child are often either overemphasized or underemphasized. In the picture of Will's family, each person appears to have one foot that is bigger than the other. Large feet are drawn by individuals who desire security. In Will's family picture, he didn't have any arms. An omission of arms suggests that the child feels insecure and has difficulty dealing with his environment whether it be school, home, or people. This is the same for an omission of hands. Although his family members have at least one arm, none of them have a distinctive hand. Will drew fingers on the arm to represent the hand and none of the "hands" have five fingers, they each have 3. The picture of Will's sister has some shading and line pressure on her leg. The only other shading is

on one of the pets that has run away. According to Klepsch and Logie, shading is always related to anxiety. The shading of legs indicates anxiety about a lack of support. Line pressure is often related to aggressive, forceful, high-energy individuals. There are a few line pressures in the picture. Will created a baseline under his drawing of his family. Children desiring more security or support will usually do this.

Based on Will's picture one might explore Will's feelings regarding security and support and anxiety around his current environment (home, school, and people). The fact that Will didn't draw any arms on his body as well as including a baseline in his picture does stands out. Will appears to have drawn these individuals (his mom, dad, and sister) as his primary family despite the fact that his dad is no longer living with them. He placed his dad and mom next to each other with dad's arm around mom. He also included pets despite the fact that they are no longer with the family. This may indicate that Will is not comfortable with big changes and likes to remember things for the way they used to be and in the way he liked it.

Sentence Completion

For Sentence Completion, Will was provided 22 incomplete statements that he had to complete. Below are the statements and Will's responses that were most interesting:

1. When I grow up

Will: I want to be a logger

2. My family is

Will: ummm….cool

3. I'd be really happy if

Will: I had a Wii, which I already do

Examiner: So if you already have one, you want another one?

Will: Yea, one for my dad's house because my mom gets nervous when I take things back and forth

4. In school my teachers

Will: Are nice

5. The thing I like best about myself

Will: ummm me!

6. I'd like people better if they

Will: We're nicer

7. My mom

Will: Is really really nice

8. My dad

Will: Is really nice

9. The other kids in school

Will: Are nice

10. I don't like people who

Will: Push me

11. Most of my friends don't know that I'm

Will: A hunter

12. I feel sad when

Will: I can't get something

13. What I like best about school is

Will: You get to go and see your friends

14. What I like least about school is

Will: Doing math

15. I feel mad when

Will: My friends don't want to play with me

16. I wish my mom would

Will: I wish my mom would um take me inside Water Safari for my birthday in November

17. I wish my dad would

Will: Be a lot nicer

18. My friends are

Will: Very nice to me

19. I f I could have 3 wishes come true, I'd wish for

Will: A coboda tractor, an iPod gamer texter thing, and (pause) I wish my sister and her mother would be a lot nicer.

Will quickly answered most of the statements. One can tell from his responses that he really loves his mom and has a strong relationship with her. He enjoys the outdoors and electronic games. For one of the statements Will seemed to contradict himself a bit. When posed the statement: My dad…., he responded, my dad is really nice. But later on when posed the statement, I wish my dad would…., he responded, I wish my dad would be a lot nicer. Will skipped four statements: the thing I like best about myself, my family treats me like, I think my body, and the things I dream about the most. Based on the other activities done with Will, he may have skipped the statements "the thing I like best about myself" and "I think my body" because of the insecurities that he has about himself. Will does not receive a lot of sleep and so it is not surprising that Will skipped the statement, "the thing I dream about most." When he was asked about having any 3 wishes he wanted, one of them was for his sister and her mother to be a lot nicer. He also replied to a previous statement that he would like people more if they were nicer. It is clear to see that Will is fully aware of how he would like to be treated by the people in his environment.

Roberts Apperception Test - 2

The Roberts-2 provides a measure of Will's perception of social relationships expressed through story telling. On the Roberts-2, Will was required to look at 16 pictures one at a time, and for each he was asked o make up a story. The story needed to include a beginning, middle, and an ending and Will also needed to address the following:

- What is happening?
- How is the character(s) feeling?
- What is the character(s) doing or talking about?
- What happened before?
- What happens next?

Will was able to provide a story for each of the cards presented to him. His stories were scored for typical and atypical themes and concerns for a child his age. A T-score of 50 +/- 10 is average. Below is a table of Will's scores on the Roberts-2.

Subtest	T-score	Average
Theme Overview Scales		
Popular Pull	52	Average
Complete Meaning	45	Average

Available Resources Scales

Support Self-Feeling	47	Average
Support Self-Advocacy	46	Average
Support Other-Feeling	56	Average
Support Other-Help	41	Average
Reliance on Other	47	Average
Limit Setting	67	Above Average

Problem Identification Scale

Recognition	54	Average
Description	49	Average
Clarification	50	Average

Resolution Scales

Simple Closure or Easy Outcome	50	Average
Easy and Realistically Positive Outcome	35	Below Average
Constructive Resolution	44	Average

Emotion Scales

Anxiety	37	Average
Aggression	58	Average
Depression	37	Average
Rejection	62	Above Average

Outcome Scales

Unresolved Outcome	68	Above Average
Non-adaptive Outcome	42	Average
Maladaptive Outcome	47	Average

Unrealistic Outcome	48	Average
Unusual or Atypical Responses		
Unusual-Refusal, no score, anti social	75	Above Average
Atypical Categories	78	Above Average

The Theme Overview Scales include Popular Pull and Complete Meaning. The popular pull of a card is how the majority of children perceive the picture and the complete meaning is the child's ability to create a story that is complete and shows that the child followed the given directions. For these two categories Will scored average for his age, meaning that he fit into the norm for his perception of the pictures and for his ability to complete the story as well as his same-age peers. The next scales were the Available Resources Scales which include six scales that all have to do with the resources that the characters on the card are able to access in dealing with problem feelings and situations. The scales include: support self-feeling (when a character experiences positive feelings, happiness, pride, love, admiration, and pleasure), support self-advocacy (identifies the ability of characters to support themselves, to be resourceful, to gain insight, and to learn from an experience), support other-feeling (when any character in the story responds with positive emotion to another character or is helpful to another character), support other-help (any type of help given to assist another person to cope with problem feelings or a problem situation), and reliance on other (when any character in the story reaches out for help or assistance in solving a problem or makes a request for some need). Will scored within the average range for his age group, with the exception of limit setting where Will scored above average for his age. Limit setting includes all types of consequences or punishment. An example of when Will received a score for the limit setting is on card 13, where there is a picture of a boy standing with a chair lifted up in his hands. For this story Will indicated that "a boy is throwing a chair and he looks really…like he is about to throw it at someone because he is really mad at someone." One of the requirements to score for limit setting is that there has to be a type of punishment or consequence and in Will's story you can see that the boy is punishing someone because he is mad at them.

The Problem Identification Scales measure different aspects of problem solving which include recognition (simple recognition of feeling or behavior in the present situation without explanation of the preceding factors), description (includes a specific circumstance that involves or implies a problem in that situation), and clarification (simple statement of present internal conflict, with limited description of the preceding factors). Will scored in normal ranges for a child his age. The Resolution Scales include: simple closure or easy outcome (includes easy endings with no mention of process or mediating steps), easy and realistically positive outcome (ending is related to the content of the present situation and a positive outcome is achieved without a description of process or how the solution was achieved), and constructive resolution (feelings may not be addressed or resolved unless the story is focused only on the problem

feeling). Will scored within average levels for simple closure or easy outcome and constructive resolution. On the easy and realistically positive outcome scale, however, Will scored below average. In order to receive a score on this scale Will's story would have to have a positive ending that was related to the content of the situation. On card 6, for example, there is a picture of three boys; two are African American and one Caucasian. For this story Will indicated that "the boys are arguing over something and they look like they're really mean. And I think that the white boy won't let those two boys play with him, because they are black. So they told the principal and then they played together." So we don't exactly know how the principal solved the problem, but we see that everything worked out in the end. This is the only story that had a positive resolution.

The emotion scales score for anxiety, aggression, depression, and rejection. For anxiety, aggression, and depression Will scored average for his age group. For rejection Will scored above average for his age group. The rejection scale identifies content representing separation or distancing from a person, family, peer, ethnic or social group. Card number 6, the card with the three boys (two African Americans and one Caucasian), was also scored for rejection because in Will's story the two boys were being excluded because of their race. On the Outcome Scales the stories were scored for unresolved outcome (the story is left in the present situation with no ending), non-adaptive outcome (action or behavior that does follow the action described in the pictured situation, but the ending does not cope with the problem adequately), maladaptive outcome (tends to make the situation worse or more problematic and often represents acting-out behavior), and unrealistic outcomes (when the outcome of a story involves an ending that is unrealistic and represents fantasy and wishful thinking). For the unresolved outcome scale Will scored above average. The unresolved outcome scale is scored when the story is left in the present situation with no ending. Will did this for 12 out of the 16 cards. For example, on card number four a girl is lying on the floor and a girl is standing over her. Will describes the story as "a girl pushed a girl down because she was being mean and it looks like she knocked her out. And that's all I've got to say." Another example is card number 13. This is a picture of a boy in front of a bathroom door and a girl is in the bathtub. Will tells the picture as "a boy is seeing some girl in the bathtub. I think it's his sister or something. And that's all I can say." For both examples Will gives no ending. For the non-adaptive outcome, maladaptive outcome, and unrealistic outcome scales Will scored average.

The last scale is scored for unusual or atypical responses. Unusual responses include: refusal (inability or the unwillingness to respond to constructing a story), no score (provides only physical description without a more abstract level of thinking), and antisocial (involves behaviors that are against or breaks family, school, or community laws, rules, or principles). Will scored above average on this scale. There are no cards that Will refused but did receive a score of no score for some cards. On card number 5, a boy is watching a man and a woman standing in front of each other. Will says, "A mom and a dad and a boy watching each other and it looks like the mom and dad are going to kiss. That's all I can say." Because Will doesn't include any emotion in the story he does not receive a score. Will also scored several times for antisocial. An example is card number 11, where a girl has her hands up shielding herself. Will indicated that, "a girl looks like she's really really afraid about something and she has a really

really scared face and she's holding her hands up like don't do that. She's afraid of some boy who is trying to beat her up. That's the end." Bullying, cruelty, and violent aggression are all behaviors that warrant scoring on the antisocial scale. Finally, Will scored above average on the atypical categories scale (identifies content or structure that deviates significantly from the usual perceptions of children). An example of an atypical scoring is on card number 12 where there is a woman on her knees and a man standing behind her. A child is behind a chair in the background watching. For this card Will said that, "a kid is looking at his mom and his dad is being really really mean to her. He's like pushing her down or something cause she looks like she's on her knees and she looks really frightened and the little boy is just watching. I think the little boy is going to tell on that guy. The guy is probably the dad or something. And that's all I can say." Will's theme was unusual, as the popular pull for card number 12 is a mother with depression or illness, with a father and child observing.

Overall, Will appears to be a child who perceives social relationships much like other children his age do. He generally interprets situations with typical themes, sees people as offering positive support to one another, is able to describe a problem, and does not show themes of anxiety or depression. However, he expresses certain issues more often than is typical for his age. These require attention from his parents and teachers. Specifically, Will struggles with issues of rejection and not anticipating positive outcomes. Of the 16 cards, Will created a positive outcome for only one story which coincides with other stories on which Will reflected feelings of rejection. Will's high frequency of atypical responses is due to more frequent themes of violence and physical aggression than is normal for his age. Will is a more concrete thinker, which may relate in part to why for many of the stories he does not give the characters feelings or provide an ending other than what he sees occurring in the picture.

In summary, Will is a delightful child who is much like his peers in many ways, yet shows a troubling trend to feel rejected, not anticipate positive outcomes, and feels that the predominant way to handle conflicts is through physical aggression. Intervention from home and school related to these concerns is necessary in order for Will to develop a more positive world view and social skills that will avoid rejection and more effectively handle conflict.

Trial Teaching

Phonological Awareness/Reading Decoding

Two clinicians created a lesson for Will involving reading a story, determining what words he struggled with, and choosing unknown words to teach. There were 102 words in this first grade level book (*Pug's Hug*) and Will was able to correctly recognize 91 of them while reading. There were some words that Will had to be told while reading, then he corrected and was able to recognize later in the reading. These words included *tugs, sit* and *licks.* This first grade rhyming book was at a frustration reading level for Will.

Four words in particular continued to present difficult for Will while he was reading: *lots, licks, grabs,* and *sit.* Using banana tiles (scrabble letters) all the letters for these words were

presented to Will. He was first asked to name all the letters in front of him, which he was successful in completing. Next, he was told to give all the sounds of the letters. There were two vowels, *i* and *o*, in the group. Will correctly gave all the consonant sounds but first said the long vowel sounds before being prompted for the short vowel sounds.

The four words where then given to Will one at a time for him to spell on his own, using the tiles. The first word given was *lots*. He spelled this word *los*, and then read the words *lots* back to us. The next word given was *licks*, which he spelled *liks*. Will said the correct word, *licks*, after spelling it. The third word given was *grabs*. At first Will used the letters *rab*, and then was told to listen to the word again with more emphasis on the *g*. Will then changed his spelling to be *gabl*. Will was asked to sound out the word in front of him (*gabl*) and he sounded out "*grraabbs, grabs*." The fourth word was *sit*, which Will spelled and read correctly. Finally he was given an extra word to see how he was able to spell a word not in the story that followed similar phonemic patterns. This word was *brat*. Will correctly spelled and said this word.

At the end of the session Will was shown the four words that he spelled from the story again in the book. He was asked to read the words as they were pointed to. Will was able to say *grabs* and *sit* correctly. When shown *licks* he initially said "*likes*" then said "I don't know." For the word *lots* he also said "I don't know."

Based on what Will showed us with his writing and reading it seems he is able to read words in context far more successfully than in isolation. His reading seems impeded by very weak ability to analyze the sequences of sounds in words.

Listening Comprehension

Will cannot comprehend well while reading, due to his decoding struggle. However, Will can listen to reading passages at his grade level and answer comprehension questions very well. In order to promote Will's comprehension and challenge him intellectually, reading material will need to be read to him to help him gain full access to the curriculum. When listening is required, vs. reading, Will is capable of performing well in the 3rd grade curriculum. After material is read to him he is able to answer the comprehension questions that he would not be able to if he had read the material himself.

To assess listening comprehension, the passages from the Formal Reading Inventory were read to Will by one of the clinicians. The passages were read at a rate that ranged between 90-110 words per minute. Immediately following the passage were multiple choice comprehension questions. Without hesitation, Will was usually able to answer the questions almost immediately without any of the possible answers being read to him. Will was able to listen and respond with a high rate of accuracy and success at a 3rd grade level. He finally reached a ceiling on the 4th grade passages. The results from the Formal Reading Inventory revealed that Will is capable of comprehending information at the high 3rd grade level.

To try another approach to accessing the material, the passages from the Diagnostic Reading Scales were read to Will using the Kurzweil software program. The passages were read with a monotone voice, without inflection, intonation or enthusiasm. The passages were read at a rate of 110 words per minute and they were followed by comprehension questions that were not multiple choice, but close ended. Will was able to answer these questions without any hesitation and the answers were given almost immediately. For the Diagnostic Reading Scales, Will ceilinged at the low 4th grade level. The results from the Diagnostic Reading Scales show that Will is capable of comprehending text at the high 3rd grade level.

Written Language

The process of writing itself was found to be a major impediment to Will when expressing his thoughts and knowledge on paper. It was found that scribing for Will lifted his ability to create stories from a first to seventy-fifth percentile for his age. Clearly, Will knows a great deal and can compose well for his age, but the difficulty of the act of writing (which hinges on the ability to read) prevents him from demonstrating these skills.

A trial teaching session was held to explore different adaptations and accommodations that could improve Will's written language. The goal of the written language trial teaching session was to teach Will how to use two computer programs which would assist him in composing a story. The task was a replication of the story composition subtest that Will was asked to complete on the TOWL-4. Will was shown a new picture, a realistic situation involving a car accident, from the TOWL-4. Will was then instructed to compose a story based on that picture using two computer programs.

When completing the story composition subtest on the TOWL-4, Will did not write anything because he stated he couldn't figure out how to start the story. In order to teach Will how to start a story, he was introduced to the *Kidspiration* computer program. Using this program, Will was shown how to make a story map using pictures and words to express the main events of the picture. Will quickly learned how the program worked and made a story map which creatively depicted the main ideas of the picture. Using *Kidspiration,* Will was able to scroll through different items and pictures and arrange them to give a pictorial display of his story.

Using the story map for guidance, Will then "wrote" a story about the picture using the speech-to-text computer program, *Dragon Speak Naturally. Dragon Speak Naturally* is a computer program which types what a user dictates onto a document. The computer program also inserts punctuation for the user, based on when the user pauses. After a training session on how to use the program, Will dictated his story to the computer. The story was then re-scored based on the TOWL-4 Story Composition subtest scoring criteria and yielded the following results:

Subtest	Raw Score	Percentile Rank	Scaled Score	Descriptive Term
Story Composition	9	75	12	Average

Dictation resulted in a major improvement compared to Will's original TOWL-4 results, which were not given a score because he did not write anything. The dictation score is comparable to that achieved earlier when scribing for Will, therefore giving valid evidence for Will having the conceptual ability to compose well, provided he doesn't have to engage in writing. In this case, the accommodations of pre-planning his story with a "story map" and then dictating the story removed Will's obstacles to writing and starting a story, and allowed him to perform at a level expected for his age group. More importantly, Will stated that he had fun using these programs. Since Will stated himself that he could not "start" his story the first time he was given the Story Composition subtest, using *Kidspiration* will assist Will in organizing his ideas and getting a story started. Using *Dragon Speak Naturally* will allow Will to use his creative writing abilities to dictate a story, and thereby bypass his reading problem. *Dragon Speak Naturally* also has the advantage of potentially improving his reading skills as it will teach him to associate a spoken word with the written word that appears on the computer screen as he says it. In addition, revisiting the documents after they are produced is another way to reinforce reading and decoding skills.

Mathematics

When completing the Key Math 3, Will lacked attention and focus to the questions asked. Multiple times, Will asked the examiner to repeat questions. In addition, Will became overwhelmed with the busy visuals being presented to him on the assessment easels. Sometimes, there was a lot he had to focus on for one question, and he was overwhelmed. Also, when completing the assessment, there would be some easier questions Will would miss, but then get a similar difficult question right. During trial teaching some of the questions he missed that appeared related to "overload" were repeated. Strategies used with Will during trial teaching included making sure attention was focused, slowing of speech and repeating directions, breaking problems down into parts, occluding irrelevant "busy" visual figures, and using manipulatives.

The first strategy used with Will was attention focusing. When repeating the questions with him, the examiner first tried grabbing his attention, to see if that was why he was missing the problems. For example, "Okay Will, ready for the question, make sure to look at all the information on the easel, and listen carefully." Will was able to get 20 out of 30 questions right simply by making sure to focus his attention. The questions on numeration he got when focused were: add three dots to make five, and select the shape that is half yellow. On algebra the ones he got focused were: 8+ ? =10, 1 triangle equals 2 circles, so 5 triangles equals how many, and

completing the pattern YR YRR YYRR YYRRR YYYRRR ?. On measurement, when focused Will could answer questions such as: why can't you tell which person is taller, compare sizes of the shapes and what size shape is in between the two, and how many beans long is the toothbrush. On Data Analysis and Probability Will answered correctly: compare the balloons -- and how many red, blue, and green balloons are there total, and add tallies from the chart. On Mental Computation and Estimation Will got add 2 numbers to make 8 when focused. He missed these items the first time because he was not completely focused, or was rushing when giving his answers and not taking the time to think about the whole question. Will's original Key Math score underestimates his true math abilities, when he is Willimally attentive and focused.

Another strategy used with Will when redoing these questions was breaking the questions down part by part to see if he could get it right, and occluding irrelevant information that overloaded and distracted him. When Will did not get questions right when focused, the examiner then covered up part of the question, or broke it down part by part to see if he could get it. He was able to get the following questions right on Numeration when broken down in this way: if I have 3 stacks of ten cubes and add 5 cubes how many do I have in total, find 3 stacks of cubes to make 8, what number is an odd number, less than 330 and greater than 300. On Algebra Will could find the missing number 27 30 33 36 39 ? 45, when it was broken down for him part by part. On the written Addition and Subtraction section, and help Will was helped to setup the problems; once the problems were setup he was able to solve them. One of the reasons he missed these the first time was because he did not pay attention to the operational signs, and mixed up the addition and subtraction problems.

An additional strategy used with Will that proved to be very effective was the use of visual aids with some of the problems. For example, for problems on Mental Computation and Estimation like "what is 6 and 10 more?" cubes were used to solve the problem. Will easily came up with the answer --16. On another problem, Will counted 16 pennies, but had not been able to solve the problem earlier when just looking at pictures. The visual and concrete aids definitely helped Will to complete these problems.

For Multiplication, Will was given a multiplication table to help him complete some of the problems. He was confused by it at first, but when showed him how to use it, he was able to get the problems right. Questions he got right using this table were: 4x1, 4x3, 6x4, 6x7, and 80x3.

After going through all the items mentioned with Will again, and using these strategies, the Key Math 3 was rescored and yielded the following results:

Subtest	Standard/ Score	Grade Equiv	Age Equiv	Classification
Numeration	7	2.8	8.4	Average
Algebra	6	3.3	8.8	Low Average
Measurement	8	3.1	8.7	Average

Multiplication & Div	6	3.5	9.0	Low Average

Overall, all of these strategies used with Will helped him to get these math questions correct during trial teaching. He has much more conceptual math ability than is evident under standard presentation conditions. Will improved tremendously on the Key Math 3 assessment, from a 7.3 age equivalent to 8.4 in Numeration, 7.4 to 8.8 in Algebra, and 7.9 to 8.7 in Measurement. Will also increased from an 8.1 age equivalent in Multiplication and Division to a 9.0 age equivalent. In each area, Will improved approximately one grade level. Clearly, with the appropriate support strategies, Will can function at least at low average levels for his grade in math.

It was important to get Will focused on the questions being asked; when he was focused during trial teaching and when questions were repeated, broken down part by part, or busy parts occluded, Will was able to solve these problems. Simple visual displays and concrete objects helped him a great deal. Will enjoyed using pennies and cubes and improved his success as a result. The concrete object help to focus Will's attention and inhibit his impulsive responding. The improved scores Will earned on the Key Math 3 assessment demonstrates the effectiveness of these strategies for Will's learning.

Executive Functioning for Planning and Following Directions

On the NEPSY II Will showed some difficulty with executive functioning (organization and planning). When the team members visited Will at school, they noticed that he often had to be redirected to stay on task. A trial teaching session was held in order to explore different adaptations and accommodations that could improve Will's ability to stay on task. During the session, Will was given instructions to complete different tasks (ex: draw a red circle, write your name, do a jumping jack, etc.). First he was given the directions verbally and not asked to repeat them. The first set of directions had three tasks and then it was increased to four, and finally five. Will was able to remember each task until he was given five, when he skipped the second task. Will was then given another set of five tasks and asked to repeat them before beginning. He then skipped two of the five tasks and said that it did not help him to repeat the steps before completing them.

The second way that Will was given directions was by listing them on a sticky note. The problem with this strategy was that Will had trouble reading what was written, so each item had to be read to him. He omitted one of the four tasks and said that he did not like this strategy. Finally, Will was shown pictures of the directions that he was being asked to do. He was given two sets of four tasks and completed them all without having to be told what the directions were. Each picture card showed the direction that he was supposed to follow and also had it written underneath (ex: touch your toes, draw a square). These picture cards, or a posted agenda, would be very helpful for Will in the classroom because he will not have to be prompted and he will

learn new words by seeing them repeatedly on the cards. Will said that this method was his favorite and that he would like to have this used in the classroom. In addition, Will will become more independent and motivated when he sees that he is following through with tasks independently in the classroom.

During initial administration of the NEPSY II it was evident that Will wanted to complete activities quickly without regard for being correct. He also had difficulty understanding some directions. Also, during initial testing Will improved on activities that were repeated a number of times. With this in mind, the Switching task on the Inhibition subtest was repeated with modifications. Directions were read verbally to Will and he was asked to repeat what was asked of him in his own words. When it was clear he understood what he had to do, he practiced the task before participating in the actual test. In this test Will had to name a circle a square and a square a circle. On his previous performance, Will tried to finish this task quickly and made several errors. It was stressed that he should take his time and get all the responses correct. Will then practiced calling a whole sheet of squares circles and a whole sheet of circles squares. Will then completed the practice items several times where circles and squares are combined on the same sheet. Will then completed the Switching portion of the Inhibition subtest and was able to name each item correctly. This shows that with practice and the absence of time constraints Will is successfully able to complete the given task.

During the initial NEPSY II, Will also performed poorly on the Auditory Attention subtest. This may have been related to lack of attention, poor motor skills, or another variable. The Auditory Attention subtest requires Will to listen to a CD of words. Each time he hears the word "red" he has to tap a red circle. During the trial teaching portion the administrator said the word "red" over and over and Will tapped the red circle each time, in response to the word "red". The administrator then read a list of words with "red" being every other word. Will was able to successfully tap the red circle each time he heard the word "red". This showed that motor planning was not a contributor to Will's poor performance on this subtest. Before playing the CD, the administrator told Will to "glue his ear to the CD player" and that the CD is very long but it is important for him to pay attention the whole time. Given these tips, Will was able to successfully tap the red circle each time the word "red" was said. This shows again, that with practice before the given task and when Will is guided to give his full attention to a task, he is able to complete it successfully.

Summary

Will is an adorable young boy who was a pleasure to work with. He worked very hard throughout the testing sessions and put forth his best effort. Across the different contexts, testing sessions, school and clinic observations, it is clear that Will struggles with basic reading skills and maintaining attention to tasks, especially when it involves academic material. Will becomes overloaded when he has too much auditory information to pay attention to at once, without visual supports and modeling of the instructions. He also gets overwhelmed by the busyness of visual materials and benefits from having his attention focused to the critical material, breaking the task

into parts, occluding irrelevant information on a page, slowing the presentation rate, and the use of concrete objects to hold his attention and allay impulsive responding. Will's attention and academic success improved greatly when given these instructional accommodations. Will's memory is affected by his weak attention and impulsivity. Visual memory was one of Will's strengths, however auditory memory tends to be weaker; especially processing more than 4-5 pieces of information at a time.

Currently, Will's reading and written expression is significantly below expectancy, around first grade level. Will's severe reading delay is caused by three weaknesses: phonological awareness weaknesses, naming difficulties, and weak attention. These three factors are predictive of very serious reading delays that can be overcome only with consistent, intensive, and specialized reading approaches. Regarding Will's phonological awareness, it is apparent that Will's strength is blending sounds together to form the whole word. Segmenting the word into its individual sounds, however, is difficult for him, because he can't determine the individual sounds he hears within a word. This skill of "picking apart" the sounds in words is important to reading and causes Will to struggle with words while he is reading them. Moreover, Will has difficulty bringing out of his memory names of letters and words that he does know. This further hampers his success in applying his knowledge to reading. Finally, weak attention only complicates the task of phonetically sounding out words, letter by letter, and memorizing word patterns.

Will's significant weakness in reading hinders his ability to write down his creative ideas and show his understanding of written language. His phonological awareness problems make the use of inventive spelling while writing arduous and unsuccessful. As a consequence of his lack of practice and efficiency with writing, Will also has difficulty in spelling, punctuation, sentence structure, and starting a story. Will's math skills are stronger, but his attention and impulsivity interfere greatly with his mathematical reasoning. It is gratifying that Will's comprehension and "writing" abilities are at grade level when the written material is read for him, or when he uses speech to dictate. Will unfortunately is feeling the strains of his lack of achievement and social isolation in the classroom. He feels rejected by others, does not expect positive outcomes, and is feeling that aggression is a primary vehicle for interrelating.

In summary, Will has a significant reading deficit characterized by difficulty with phonemic awareness and word finding skills; in addition, Will's attention difficulties impair learning and memory in all subject areas. Adaptations and accommodations for content are required for Will's academic success, as well as special education services.

Recommendations

Identification

Will is a talented, capable and hard working individual who has the potential to grasp grade level content when accommodated for his severe reading delay and attention weaknesses. There is a severe discrepancy between Will's intellectual ability and his achievement,

specifically in reading. Furthermore, from the documentation provided by school personnel regarding the interventions Will has been receiving, it is evident that he has not responded to the interventions provided. Will qualifies for identification as learning disabled in reading. It is recommended that he be designated as learning disabled and receive special education services to support his reading development. Speech therapy intervention might also be considered, if the therapist could be helpful to Will's phonological awareness and word finding difficulties. It may be in Will's best interest to eliminate his time in occupational therapy and use this time for working with the speech therapist instead.

Will also has a significant attention deficit disorder (inattentive type) that complicates his learning. Due to both the learning disability in reading and ADHD, Will requires accommodations and adaptations in the regular curriculum in order to profit from the instruction. With differentiated instruction, Will is capable of experiencing success within the regular education curriculum.

Medical

Will is a light sleeper, does not dream, is active while others are asleep, and commented that sometimes he sees the whiteboard in class but seems removed and far away. His weak attention skills are also significantly impacting his learning progress. Medication may be helpful for Will to pay attention during important learning time. Therefore, it is recommended that Will's mother seek medical consultation to explore whether medical intervention might assist with sleep and attention span.

Reading and Phonological Awareness

Using a program such as Road to the Code or Road to Reading that includes auditory, kinesthetic, vocal, and visual cues to help Will build understanding of the phonetic system is very important to Will. Such special reading programs help Will become successful with a few phonemes and word patterns at a time, instead of confusing him with all letters and patterns at once.

Will also requires direct instruction in segmenting syllables and phonemes in words, learning the six syllable types, vowel teams, diagraphs, and diphthongs. Phonological awareness is a listening and speaking skill rather than a reading skill; however this skill is the primary pre-requisite for learning to decode words in reading. Will requires very intensive work in phonological awareness in order to progress more rapidly in the chosen reading program.

The website, http://www.k12reader.com/effective-strategies-for-teaching-phonemic-awareness/, suggests diverse ideas for building phonemic awareness. All ideas are listed on Appendix.

Reading and Writing

Computer Accommodation: A necessary tool for Will is the computer, both at home and at school. Since he can't read, he needs to have others read to him, listen to tapes of the material, or have the material scanned into a computer – which them reads it to him. The computer also should be used to type Will's dictation. Both his comprehension and writing ability are good, if the computer is used as the accommodation for not being able to read. In addition, there is a wide range of software available that provides a motivational, game like atmosphere and helps to maintain concentration for extended practice sets on skills Will needs to practice. One example is the program Earobics that is designed to improve accuracy and speed of decoding and word recognition skills by helping to increase phonetic awareness. The site www.carlscorner.us.com is designed by a retired teacher and is filled with reading and writing materials with fun graphics. This site is designed for the early primary grades, however some of the materials are appropriate and the graphics may interest Will. Besides giving him access to the curriculum, the computer will also aid in the development of Will's reading fluency.

Will has very poor comprehension when reading, due to the decoding struggle. However, he comprehends material that is read to him at grade level. Any directions or content that are more difficult than a first grade level need to be read to Will. Following are a number of vehicles for accomplishing this objective.

Kurzeil: This program was used in trial teaching to accommodate Will's reading disability. Will listened to the passage and also followed along with the print. The program highlights words as they are being read and has the ability to change pace (rate of words per minute). During the trial teaching session, Will was following along very engaged and p7erformed at grade level in comprehension using this accommodation. Any text can be scanned in and read to him. This program would be beneficial both at both school and at home

Audio Books: The use of audio books has the same capabilities of the Kurzweil minus the interface. When listening to audio books, Will may have a physical copy of the book to follow along with. The selection of audio books is unlimited, especially if they are borrowed from the Library for the Blind and Dyslexic, a free service for students with learning disabilities. Books and magazines on the outdoors, trucks, and hunting are particular interests of Will's, and these could be ordered free of charge from the Library for the Blind and Dyslexic.

Read Aloud: Simply reading the text to Will will benefit him as well. Also, reading with prosody will aid in his ability to comprehend. This can be done in both the classroom or at home. In the classroom, either the teacher or a peer can read directions, text content, etc. to Will. Peer tutoring is especially suited tot his purpose.

Read it, Tape it, Listen to it: If the content is at a first grade reading level, have Will focus on reading while he records himself. When he comes to the comprehension questions, he can listen to his own recording as much as needed. Any recording device can be used for this purpose. This can be used in both the classroom and at home.

Kidspiration: It is a computer software program that is designed for K-5 learners to assist with written expression. *Kidspiration* allows a student to create outlines, mind maps, story maps,

concept maps and other visual representations that organizes their ideas and knowledge of the topic. Students can select pictures from a gallery to represent an idea or concept. This software will help Will in reading and writing because it will strengthen his word recognition, vocabulary, comprehension and written expression. During trial teaching, Will was able to start his story very easily by using this computer program. Will is a visual learner and enjoyed organizing pictures in a story map as a pre-writing activity. This made the process of writing the story very easy for Will. It also is recommended that Will use *Kidspiration* to make concept maps for daily lessons to check his understanding of the lesson. Will could also use this program to summarize a story that he has just read.

Speech to test computer program: It is recommended that Will be given access to the computer software program *Dragon Speak Naturally* to write. *Dragon Speak Naturally* is a speech to text computer program which allows Will to speak into a microphone and scribe what he wants to write for the computer, as it was used on trial teaching. Not only will this program remove the obstacle of writing for Will, it will improve his word recognition skills. Since Will's expressive vocabulary is much more advanced than his written vocabulary and everything that Will scribes will appear on the computer screen, Will will begin to associate the words he says with the written form of the word. Not only should Will use *Dragon Speak Naturally* for any writing pieces greater than a sentence in length, he should also use this program to edit a writing piece. Since the program also reads what is written back to Will, he will be able to edit his own writing pieces by listening to the errors and making the appropriate corrections. This program will allow Will to "write" to his potential, but it also will make the process of writing fun for him.

Word Processor: As Will begins to build his reading skills and therefore improve his ability to spell words, Will should transition from using *Dragon Speak Naturally* to the use of a word processor when writing in order to access the spelling and grammar checker. By using a word processor to write, the program will recognize any grammar or spelling mistakes and underline them for Will to see. This will help Will become an independent writer and edit his own work.

Scribe: When access to *Dragon Speak Naturally* is not feasible, Will should be provided a scribe for any writing activities greater than one sentence in length. Since the process of writing poses great difficulty for Will, his ideas and writing potential should not be constrained by that process. By providing a scribe for Will, his work will reflect his true abilities as a writer.

Raised-lined paper: The use of lined paper with embossed lines would be recommended to improve Will's ability to write in the lines. Although the act of writing on the lines did not pose a great difficulty to Will when he was given plenty of time and an environment with minimal distractions, it may pose more difficulty in a regular classroom environment. Using embossed lined paper will provide Will with tactile stimulation to recognize the limitations of the lines.

Class notes provided: Will should also be provided with a daily copy of all class notes and assignments given in both a hard copy and digital format. Since it is difficult for Will to write, let alone listen and write or copy and write at the same time, a hard copy of class notes will allow Will to listen to the teacher explain the notes and directions rather than having to struggle with

copying these. A digital copy of class notes put on *Kurzweil* is also recommended so Will may have class notes and directions read back to him by the computer when he so chooses. This will also help him become more independent in completing his class assignments.

Extended time for writing assignments: Due to Will's writing difficulties, he should be provided extended time for writing assignments. When Will does write any assignments by hand, spelling and grammar errors should not be deducted from writing assignment scores. Also, due to Will's attention difficulties, he should be given sensory breaks during occasions when he is expected to do seat work for more than 30 minutes in length.

Choice of assignments: It is recommended that Will be given alternative assignments to writing assignments so he may express his knowledge and creativity in a different modality than the act of writing. For example, when asked to write a two paragraph report on a given subject, he should be given the opportunity to express his knowledge of the topic through an oral description or presentation, a picture story, a song or skit. This will allow Will to use his other intelligences to reach the same goal.

Five-step spelling strategy: To improve Will's spelling, it is recommended that he use a five step spelling strategy while studying spelling words. When given a new spelling list to study, with each word he should begin by saying the word aloud. The second step is to repeat the word aloud, segmenting the word into phonemes, and write the word. The third step is to check if the word was spelled correctly and correct any errors. The fourth step is to trace the word with a finger or pencil while saying the word. The last step is to write the word from memory and check it. These 5 steps should be posted on his desk and he would be able to put an X next to each as he proceeds through the steps.

Reduced spelling list: Due to Will's reading and writing difficulties, Will should be given a modified spelling test. Rather than having to memorize the entire list as his peers, Will should only be required to learn a reduced spelling list (6 words instead of 10). The spelling words should be drawn from his reading curriculum.

Math

Break down questions and problems: It would be helpful for Will to have math questions broken down when given a worksheet. If it is a word problem, break it down (Part A, Part B, Part C) so that it is in three steps. Have Will do one part first, then the next, and then the last. If it is broken down for Will, it will be easier for him to do. He gets overwhelmed with a lot of information to handle at once.

Focus in one topic at a time: Will will benefit if given work that focuses on one topic at a time. It would be Give him work on just addition, or just subtraction, for example. If he has to do both at the same time, it will be difficult for him, he will get confused and mix up the two.

Use of manipulatives and visuals: Will will benefit from having access to cubes or other visual aids he can use to help him solve problems. If given addition or subtraction problems that he is struggling to complete, give him concrete objects and direct him on how to use these to solve the question. It would be helpful for Will to see visuals for problems he is doing. If Will has a picture or image to go along with problems, Will will be able to complete the problem by using the information from the image or picture. Will was able to do this successfully during trial teaching.

Use of calculator or computer: Having Will use the computer to complete Math problems would help him to improve his Math skills. Will did well with the computer during trial teaching with reading exercises and if allowed to use the computer for math, it would help Will to get the information better, especially word problems, and be able to complete the work at a faster rate. The computer has a wonderful way of engaging children's attention, and it is Will's weak attention that is the primary deterrent to his math success.

Multiplication table and number line: For multiplication it would help Will to use a multiplication table. It is important to show Will how to use the table to solve the problems. He was successful in using such a table at the clinic. Giving Will a number line and showing him how to use it would benefit him for addition and subtraction problems. While counting on fingers should not be discouraged, a number line would be faster for him (and it goes beyond 10).

Attention and Executive Functioning

Will appears to be a competent learner when his attention is focused. Therefore, there are several principles that should be used in teaching him. These include: get his attention and focus him on the critical material, break problems into their component parts, use visuals to accompany auditory, repeat and model directions, do not give more than 4 or 5 items to memorize at one time (spelling words, word families, math facts, etc.), occlude busy aspects of material that draw attention away from the critical information, use manipulatives whenever possible. Additional recommendations to help Willimize Will's learning include:

Daily Agenda: Will performs well with visual reminders. An agenda on Will's desk may be helpful to remind Will of the specific tasks he must do each day. With an agenda Will will be reminded as to what he must do and he can cross each off as he completes it.

Repeat directions: Will sometimes has difficulty understanding verbal directions. To check for understanding it is helpful to have Will repeat back the directions in his own words to demonstrate that he indeed understands what is required of him.

Practice tasks and articulate the rules before working independently on the task: Will has difficulty transferring between tasks that are similar but have one or two rules changed. He performed much better on tasks when given the opportunity to practice the task before being expected to continue independently.

Behavior Plan: Create a list of tasks that must be completed, similar to an agenda, but with the incentive of a reward for completing the tasks. Will would be able to pick the reward and would be motivated to complete the tasks.

Positive Reinforcement: Praising Will for staying on task and completing his work is important. This could include tangible rewards preferably related to the task (e.g., a special pencil for a writing assignment) as well as verbal praise.

Reminders to slow down and think: Reminding Will that it is important to take his time and to be sure that he has the correct answers, rather than be the first person done is important to overcome his impulsive response style. Timed activities should be avoided.

Sensory Breaks: Giving Will time to get up and move at decided intervals will help hold Will's attention, as he knows that he will have a chance to have a break.

Neurofeedback: This is a type of biofeedback using an electroencephelograph that gives a person feedback about brain activity. This type of feedback has been shown to be useful for individuals with ADHD and might be explored as an out of school therapy for Will.

Socioemotional Functioning

Based on Will's assessment results, there are indicators that he struggles with aggression, anxiety, and insecurity. Although these behaviors may not be as evident or extreme now, they may develop into something greater in the future. Prevention has several components and one of those components is early intervention, both in the home and school environments.

There are also many things in the community that Will can get involved in to help him deal with aggression, anxiety, social emotional growth, and security within his environment. These include (but are not limited to):

- Boys Scout
- The YMCA
- Sports teams
- Banana Splits (for kids with divorced parents)
- Birthday parties/sleep over's
- Summer/day camp
- After school activities
- Karate
- Big Brother/mentor programs
- Volunteer in the community

Examples of ideas for the classroom and school to help Will in socialemotional area are listed below.

Peer-mediated instruction (peer tutoring): Having a peer working with him in the classroom would help in Will's social and emotional development as well as assist with different academic areas. In addition, peer tutoring can be done reciprocally, so that Will tutors and then the other child tutors Math. Cross age tutoring could also be an option, where Will helps out students who are young would also help Will to gain confidence.

Behavior contracts: A "deal" or "contract" could be proposed to Will in order for him to display some targeted behaviors in the classroom. This can be used to help Will stay focused and on task, for example.

Use of social stories: Social stories are an interesting strategy to see represented issues a child is facing personally and socially. Examples of how he acts in certain situations, how others respond and how he could do differently would show him different ways of behaving in order to be more connected with the classroom and his peers.

Time with school counselor: Sharing his ideas and frustrations from the classroom with another person could be important for Will. This time with the counselor would help him regulate his emotions and be more available for learning once back to the classroom.

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Appendix

Activities for reading from the website: http://www.k12reader.com/effective-strategies-for-teaching-phonemic-awareness/

1. **Clapping and Tapping**

    One of the easiest ways to help children realize that words are made up of several sounds and syllables is to allow them to "break up" words by clapping or tapping out their syllables. Tapping can be performed with fingers, hands or an object such as a stick. When first introducing this concept, adults should model clapping or tapping. For example, a teacher can show a child that the word "balloon" has two syllables by clapping twice while reciting the word (/ba/ -clap- /loon/ -clap-). Once children understand the activity they should be encouraged to perform it independently on a regular basis. This kinesthetic connection allows children to become actively engaged with words.

2. **Keyword Substitution**

    This activity aids children in developing an understanding of the role that phonemes play in the meaning of words. When a phoneme is changed in a word, more often than not, the meaning changes. Keyword substitution activities use familiar songs as a basis for "playing" with words. Adults can take the lyrics of a familiar song and create new lyrics that substitute words with small phonemic variations. For instance, the chorus of "Pop Goes the Weasel" could be changed to "Hop Goes the Weasel". After singing the song with the new lyrics adults should discuss how changing a phoneme shifted the meaning of the song.

3. **Picture Flashcards**

    Picture flashcards are excellent tools for helping children who do not have strong phonics skills work on their phonemic awareness. Adults should create a series of flashcards featuring pictures that are familiar to the child. When using the flashcards the adult should ask the child to name the picture featured on each card. After saying the word the child should be asked to identify the first and second sounds (or phonemes) in the word. This activity helps children realize that words are made up of a series of independent sounds or phonemes.

4. **Oral vocabulary**

    Increasing oral vocabulary by continuing to encourage Will to learn more about his favorite subjects through the use of the internet and reading difficult material with him will allow Will to more easily decode using context as a clue.

5. **Word finding strategies**

Will will benefit from strategies that will help him to retrieve words and sounds from memory more rapidly. The speech therapist can be very helpful in this regard. The strategies below come from the following article: Bowen, C. (1998). Stuck for words? Word retrieval activities for children. Retrieved from http://www.speech-language-therapy.com/wordretrieval.html on 3/10/2010. Basically, the more Will builds his vocabulary, the more he'll be able to retrieve an equivalent word when the word he is searching for escapes him.

a. Talk about words and word-meanings

As natural opportunities arise talk about such topics as "Why is Big Bird called Big Bird?" Talk about people being named after other people. Talk about why certain names might have been chosen for pets and TV characters (Cookie Monster, Rugrats, Inspector Gadget, Uncle Scrooge, The Fat Controller, etc). Try to work these conversations in around topics of genuine interest to the child.

b. Read, read, read, and read!

Here are some suggestions:

Just about every book in the "Beginner Books"/Dr Seuss series, including "I'll Teach my Dog 100 Words" and "Hop on Pop".

Books about rhymes.

Books about opposites.

Books about word classification (i.e., semantic classes): e.g., vehicles, tools, occupations, etc, involving knowing the names of objects or entities within a class.

Books about animals and their young, involving knowing the precise names for animals' offspring (e.g. horses have foals, cows have calves, etc), and the correct names for some common animals according to gender (horse: mare, stallion. filly, colt).

Books about names.

Books that contain high repetition of the same word.

Books that rhyme e.g. The Diggingest Dog, One Duck Stuck

Books that tell a story e.g. The Cat in the Hat, Robert the Rose Horse

Books that contain silly rhymes*, for example "There's a Wocket in my Pocket" by Dr Seuss.

*Don't read this sort of thing if it irritates you or your child. It's not to everyone's taste!

c. Play impromptu word games

Games involving transforming one part of speech to another are particularly helpful, e.g.:

Today I am riding, yesterday I ... (rode)

Today I am driving, yesterday I ... (drove)

Today I am sleeping, yesterday I ... (slept)

Yesterday I rode, tomorrow I will ... (ride)

d. Incorporate cloze-tasks into story-reading

When you read stories, recite rhymes or sing songs, include "obvious" sentence completion routines, e.g. 'Little Jack Horner sat in a ...' (corner); 'Baa baa black sheep, have you any...' (wool).

e. Read riddle books and tell jokes

Choose knock-knock jokes, riddles, etc that rely upon accurate word-retrieval to make them funny.

Make up silly words for familiar rhymes, e.g.: "Baa baa black sheep have you any... spaghetti?" "Humpty Dumpty had a great... grandmother".

f. Play word-classification games

These games might include ones such as: "See how many boys' names you can think of in one minute. Time yourself while you do it". Other categories that might be fun or interesting include: tools, games, drinks, movies, tools, games, drinks, movies, toys, animals, vegetables, makes of car, sports, clothes, flowers, or colours.

g. Play "name the category"

This can be done like a cloze task, for example, "red, blue, green, orange and pink are all ..."; "lions, tigers, monkeys and elephants are all ..."

h. Play "pick the word that does not belong"

For example, "Which one is the odd one out: cat dog tree mouse

i. Play "which two words go together?"

For example: "watch pig nail clock"

j. Play sentence completion ("cloze") games

For example: "A house is a place to live. An office is a place to ..." "A nursery is a place to buy plants. A Post Office is a place to buy ..."

k. Play games involving synonyms

For instance, "Can you think of another word that means big?" "Can you tell me another word for smart?"

l. Play word-association games

For example: "pilot goes with..."(plane), "cab goes with..."(driver), "ship goes with..."(sailor)

m. Devise simple games involving similarities

For example, "What is the same about a sheep and a cow?" "A train and a plane are both..."

n. Play games involving antonyms

Do this as a sentence completion (cloze) activity (e.g., "The opposite of hot is ...") or use a question-and-answer format (e.g., "What is the opposite of hot?"), or as a confrontation naming task using pictures in which the child has to name "opposites pictures" as rapidly as they can (e.g., hot cold, wet dry, big little, fast slow, deep shallow, apart together).

One can have a lot of fun doing this at the sentence level:

Adult: I live in a little house.

Child: I live in a big house.

Adult: I love cauliflower.

Child: I hate cauliflower.

Adult: I broke the ladder.

Child: I mended the ladder.

Adult: My car is old.

Child: My car is new.

Play word games involving differences

For example, "What is different about a bird and a plane? They can both fly, but they are different because ..."

o. Play "What comes next?"

For example:

Monday Tuesday Wednesday ...

Summer Autumn Winter ...1 2 3 ...

First second third ...

Laa-Laa, Tinky-Winky, Dipsy, and...

Twinkle, twinkle little ...

p. **Play Scrabble, crossword puzzles, any game to increase vocabulary knowledge**

q. About these activities

* These activities are intended for children.

* Not all of the activities will suit all children - so be selective.

* Put the emphasis on listening, thinking and speaking.

* The activities are aimed at helping the child retrieve known words and be able to substitute a word with similar meaning if he gets "stuck."

* If possible, use a minimum of visual cues at first. If the word to be "retrieved" does not come easily for the child, provide an auditory cue (e.g., say the first sound or syllable of the word) or a verbal clue (e.g., "it rhymes with...").

* If auditory cues are not working provide more scaffolding with written sounds or words, and pictures.

* Give the child time to think, but not so long that he is struggling to find the word. Rather than letting Will persist unsuccessfully, tell him the answer, and go on with the next f items. Then ask them the one that was difficult again.

* Aim for a high success-rate to encourage motivation and confidence.

* Adapt the tasks to suit the (developmental) age and interests of the person.