COGNITIVE AND EDUCATIONAL EVALUATION

Name: Gallery, Adam
Date of Birth: 04/05/1994
Age: 11 years, 11 months
Sex: Male
Dates of Testing:
05/01/2006
02/25/2006
02/20/2006

School: Rolling Meadows
Teacher: Mr. Robinson
Grade: 6.5
Examiners:
Dr. Kowalczyk
Jones

REASON FOR REFERRAL

James Robinson, Adam's teacher, referred him for an evaluation of observed interpersonal problems. Specifically, he has a great deal of anxiety associated with interacting with his peers. Additionally, Suspected learning disability. Specific troubles with Math content. This evaluation is intended to address the following question: Is there evidence for an ability/achievement discrepancy?

TEACHER'S REPORT

Mr. Robinson described Adam as attentive, caring, and conscientious, but also shy. (This information, provided by Mr. Robinson, represents his observations of Adam over the previous month.) At times, Adam seems unhappy, but overall, his mood varies normally. He said that Adam needs more one-to-one attention but completes about as much schoolwork as other boys his age.

Mr. Robinson reported certain characteristics that likely facilitate Adam's classroom performance. He usually attends to details in schoolwork and concentrates while working. His oral responses to questions are slow but careful.

Some reported behaviors may be inhibiting performance. Adam seems to have difficulty sustaining attention in tasks or play activities. He usually attempts, but gives up easily, when confronted with difficult tasks. He often loses his personal belongings. Adam is easily distracted.

When seated, Adam is often lethargic. Outside the classroom, he seems sluggish or lacking in energy. His style of motor activity seems slower than other boys his age, and overly careful in comparison. Adam generally talks much less than other boys his age. He typically avoids interacting with his peers. But when he does, he often has difficulty awaiting his turn. Mr. Robinson is most concerned about the way Adam interacts with his peers; he believes this generally impairs Adam's classroom performance.

Mr. Robinson reported that Adam demonstrates serious withdrawn behaviors in the classroom. He demonstrates slightly serious anxious behaviors in the classroom.

Mr. Robinson rated Adam's levels of listening comprehension, reading comprehension, and written expression as average. His levels of oral expression, basic reading skill, and basic writing skill were rated as limited. His levels of mathematics calculation and mathematics reasoning were rated as negligible.

FATHER'S REPORT

Mr. Gallery provided the following information. Adam lives with his mother and father, along with three other children, aged 7, 6, and 2. There have been no significant changes in Adam's family life recently.

According to his father, Adam has a health condition but does not require medication. Adam had a recent vision test; his vision is normal when he wears corrective lenses. No hearing problems were reported; Adam's hearing was tested recently. At night, Adam typically sleeps soundly for 8 or 9 hours.

During pregnancy, Adam's mother had no significant health problems. Adam's delivery was normal. Immediately after birth, Adam was healthy.

Adam's father remembers Adam as an affectionate, playful, and calm infant and toddler, but also a shy and withdrawn one. His early motor skills, such as sitting up, crawling, and learning to walk, developed normally. His early language development, such as first words, asking simple questions, and talking in sentences, seemed to be typical.

Adam attended preschool, beginning at age 4. His preschool cognitive development and social skills progressed normally. No atypical behavior management problems were recalled.

Mr. Gallery believes that Adam has learning problems and has been concerned about this for about a year.

At the time of this assessment, Mr. Gallery described Adam as reserved and caring, but also shy. (These descriptions are based on Mr. Gallery's observations of Adam over the previous year.) Adam's mood is typical of others his age. He typically avoids interacting with his peers. Mr. Gallery said that Adam likes some things about school but dislikes other things. Generally, however, he tries to succeed at schoolwork.

Some things that Mr. Gallery reported may be significant. Adam frequently fails to give close attention to details or makes careless mistakes. He seems to have difficulty organizing and sustaining attention during his tasks and play activities. He often does not follow through on instructions and fails to finish his homework. Adam usually attempts, but gives up easily, when confronted with difficult tasks.

Mr. Gallery reported that Adam demonstrates slightly serious problem behaviors at home; these include inattentiveness; anxiousness; and withdrawal.

SELF-REPORT

Adam lives with his mother and father. All together, there are three people in Adam's home. There have been no significant changes in Adam's home life recently. He has a health condition but he does not require medication. Adam had a recent vision test; he can see normally in most situations when he wears corrective lenses. Adam's hearing is normal, but he has not had a recent hearing test.

When asked to describe himself, Adam said that he likes some things about school but dislikes other things. Generally, however, he tries to succeed at schoolwork. He likes some things about himself and dislikes other things. Adam typically avoids interacting with others. Although he typically avoids interacting with his father, he has a very close relationship with his mother. Adam usually is patient and organized, attends to details while working, concentrates long enough to get his work done, and finishes the work he starts. He usually remembers what he is supposed to do. He often has difficulty relaxing. Further, he has recently experienced an inability to concentrate.

Adam always, or almost always, keeps his personal belongings in order; this is a characteristic that facilitates cognitive and academic performance. One reported behavior may be inhibiting Adam's cognitive and academic performance. That is, he is easily distracted.

Adam reported that he finds tasks involving comprehension-knowledge, auditory processing, long-term retrieval, short-term memory, listening comprehension, reading comprehension, basic writing skills, and written expression manageable. He finds tasks requiring processing speed difficult, and he finds oral expression, mathematics calculation, and mathematics reasoning very difficult.

When recalling his early years of schooling, Adam said that he liked some things about school but disliked other things. Generally, however, he tried to succeed at schoolwork. He always, or almost always, kept his personal belongings in order. Adam usually attended to details and concentrated while doing schoolwork, followed instructions, and finished his homework. In social situations outside the home, he was less active than his peers. He had more difficulty sustaining attention in tasks or activities than his peers did. Adam often avoided, disliked, or was reluctant to engage in tasks that were difficult for him. His style of motor activity was slower than other boys his age. He could usually play quietly when required. Adam generally talked much less than other boys his age. He typically avoided playing with his peers.

CLASSROOM OBSERVATIONS

Adam was observed in the classroom on 06/03/2006. James Robinson was the observer. A small-group activity was observed. Adam usually wears glasses and was wearing them during this observation.

When compared to another male student who was identified as typical, Adam was observed as having more off-task behaviors. During the 15-minute observation, the comparison student was off-task 11 times; Adam was off-task 16 times. Inattentive behaviors and anxious behaviors were observed; these behaviors were slightly serious but not disruptive to others. Withdrawn behaviors were observed; these behaviors were serious and slightly disruptive to others. The primary problem behavior observed was withdrawal. This behavior may have occurred because Group activities scheduled with the other students.

According to Adam's teacher, his behavior during this observation was typical for him.

TESTS ADMINISTERED

WJ III Tests of Cognitive Abilities (administered on 02/25/2006 by Dr. Kowalczyk)
WJ III Tests of Achievement (administered on 02/20/2006 by Dr. Kowalczyk)
Universal Nonverbal Intelligence Test (administered on 05/01/2006 by Jones)

The WJ III tests provide measures of Adam's overall intellectual ability, specific cognitive abilities, academic achievement, and oral language abilities. Relative strengths and weaknesses among his cognitive and academic abilities are described in this report. A description of each ability is provided. His performance is compared to age peers using a standard score range. Adam's proficiency is described categorically, ranging from negligible to average; his test performance can be generalized to similar, non-test, age-level tasks. Clinical interpretation (with qualitative observations) of cognitive and academic task performance is provided. Additionally, the *Universal Nonverbal Intelligence Test* was administered to provide a measure of non-verbal intelligence.

INTELLECTUAL ABILITY

Adam's overall intellectual ability, as measured by the WJ III GIA (Ext) score, is in the average range of others his age. There is a 68% probability that his true GIA score would be included in the range of scores from 95 to 99. As measured by the Universal Nonverbal Intelligence Test (UNIT) FSIQ, Adam's intellectual ability is also in the average range of standard scores earned by others his age. There is a 68% probability that his true UNIT FSIQ score would be included in the range for scores from 90 to 100.

COGNITIVE ABILITIES

Intra-Cognitive Variations

When compared to others of his age, Adam's cognitive abilities are in the average range in Working Memory, Short-Term Memory, Fluid Reasoning, Auditory Processing, Visual-Spatial Thinking, Processing Speed, Phonemic Awareness, Comprehension-Knowledge and Long-Term Retrieval.

Clinical Interpretation of Cognitive Fluency and Executive Processing

Adam's overall speed in performing cognitive tasks is average. For example, his performance on tasks measuring speed of forming simple concepts was average; he made decisions slowly. On tasks measuring speed of direct recall of simple vocabulary, Adam's performance was average. On tasks measuring fluency of retrieval from stored knowledge, Adam gave examples very slowly; his performance was average.

His overall ability to plan, monitor, and arrive at solutions to problems is average. Specifically, Adam's ability to maintain focus on a task amid visual distractors is average. Adam's adaptive learning and flexibility in thinking are average. Even though Adam's strategic planning ability appeared to be impulsive in style, his performance was average. During testing, Adam's ability to focus his attention on relevant stimuli for information processing purposes was average.

ACHIEVEMENT

Intra-Achievement Variations

Among his achievement and oral language abilities, Adam has a relative strength in Basic Reading Skills. Basic Reading Skills includes sight vocabulary, phonics, and structural analysis skills. His basic reading skills standard score is within the low average range (percentile rank range of 20 to 28; standard score range of 87 to 91) when compared to others of his age. His basic reading skills are limited; Adam will probably find age-level tasks requiring accurate word perception and use of decoding skills very difficult.

Listening Comprehension is also a relative strength for him. Listening Comprehension includes listening ability and verbal comprehension. His listening comprehension standard score is within the average range (percentile rank range of 20 to 38; standard score range of 87 to 95) when compared to others of his age. Adam's listening and oral comprehension abilities are limited to average; it is likely that he will find age-level tasks requiring listening skills, working memory, and oral comprehension difficult.

When compared to others of his age, Adam's academic achievement is in the average range in Oral Expression.

Academic Knowledge is a sampling of Adam's knowledge in the sciences, history, geography, government, economics, art, music, and literature. His standard score is within the low average range (percentile rank range of 9 to 24; standard score range of 80 to 89) when compared to others of his age. Adam's academic knowledge is limited; this suggests that he will find similar age-level tasks very difficult.

Basic Writing Skills includes spelling skills and knowledge of English language usage. His basic writing skills standard score is within the low average range (percentile rank range of 10 to 20; standard score range of 81 to 87) when compared to others of his age. Adam's basic writing skills are limited; it is predicted that he will find age-level tasks requiring spelling of single-word responses and knowledge of conventions of English writing very difficult. His handwriting legibility is average. Adam's punctuation and capitalization skills are low average.

Reading Comprehension measures Adam's reading vocabulary and his ability to comprehend connected discourse while reading. His reading comprehension standard score is within the low range (percentile rank range of 4 to 9; standard score range of 74 to 80) when compared to others of his age. His reading comprehension is limited; Adam will likely find age-level tasks requiring the ability to decode and understand printed text very difficult.

Written Expression measures Adam's fluency of production and quality of expression in writing. His written expression standard score is within the low range (percentile rank range of 3 to 10; standard score range of 71 to 81) when compared to others of his age. His overall ability to express himself in writing is limited; Adam will probably find age-level tasks requiring clear expression and organization of sentences very difficult.

Among his achievement and oral language abilities, he has a relative weakness in Math Calculation Skills. Math Calculation Skills measures Adam's computational skills and automaticity with basic math facts. His mathematics calculation skills standard score is within the very low range (percentile rank of <1; standard score range of 30 to 43) when compared to others of his age. Adam's mathematics calculation skills are very limited; it is likely that he will find age-level tasks requiring computational skills and automaticity with basic math facts extremely difficult.

Mathematics Reasoning is also a relative achievement weakness for him. Mathematics Reasoning includes mathematical knowledge and reasoning. Adam's mathematics reasoning standard score is within the very low range (percentile rank of <1; standard score range of 5 to 12) when compared to others of his age. His mathematics reasoning ability is negligible; this suggests that he will find age-level tasks requiring the ability to reason with concepts involving quantitative or mathematical relationships and knowledge impossible.

Individual Tests

Reading Fluency measures Adam's ability to quickly read simple sentences. In this timed test, Adam was required to indicate whether each simple sentence was true or false. Adam's standard score is within the average range (percentile rank range of 22 to 47; standard score range of 89 to 99) when compared to others of his age. His fluency with reading tasks is average; he will probably find age-level tasks requiring efficient operation of reading processes manageable.

Story Recall - Delayed measures Adam's language development and meaningful memory using previously-presented stories. Adam was asked to recall details of stories presented in Story Recall after a period of time. Adam's standard score is within the average range (percentile rank range of 5 to 66; standard score range of 75 to 106) when compared to others of his age. His ability to recall complex details that were previously presented is average; it is likely that he will find similar age-level tasks manageable.

Spelling of Sounds is a measure of Adam's spelling ability, particularly phonological and orthographical coding skills. This test required him to spell letter combinations that are regularly used in English. Adam's standard score is within the average range (percentile rank range of 18 to 41; standard score range of 86 to 97) when compared to others of his age. His ability to spell nonwords is average; this suggests that he will find similar age-level tasks manageable.

Sound Awareness is a measure of Adam's phonological awareness, including his ability to rhyme words and manipulate word sounds. Adam's standard score is within the low average range (percentile rank range of 10 to 31; standard score range of 81 to 92) when compared to others of his age. His sound awareness is limited to average; it is predicted that he will find similar age-level tasks difficult.

Clinical Interpretation of Academic Processing

Academic Skills. Overall, Adam's academic skills are very limited. In particular, his sight reading ability is limited. Initially, he was able to rapidly and accurately identify test items, but as the items progressed in difficulty, his responses seemed to lack applications of phoneme-grapheme relationships. His spelling is limited; the automaticity of his responses to spelling items appeared to be typical for his age. Adam's math calculation skill is negligible. He gave incorrect responses on math calculation items involving addition and subtraction.

Academic Fluency. The overall fluency with which Adam performs academic tasks is limited. For example, his fluency with reading tasks is average; he made several errors and read sentences slowly. His fluency with mathematics problems is limited; he solved problems slowly and made several errors. Adam's writing fluency is limited. He wrote appropriate sentences at a pace typical for his age.

Academic Applications. Adam's overall ability to apply his academic skills is negligible. Specifically, on a passage comprehension task, his performance was limited to average. His writing ability is limited; the sentences he wrote were inadequate when compared to what would be expected for his age. Adam's quantitative reasoning is negligible; he appeared to have limited understanding of age-appropriate math application tasks. He gave incorrect responses on math reasoning items involving number concepts and subtraction.

Phoneme/Grapheme Knowledge. Adam's overall knowledge of phoneme/grapheme relationships is limited to average. In particular, his ability to spell nonwords is average. His ability to sequence sounds and knowledge of common English spelling patterns appear to be typical for his age. His ability to pronounce nonwords is limited. Initially, he answered items easily and accurately; his responses to the more difficult items were slower and less fluent.

INFORMAL WRITING EVALUATION

Additional information about Adam's writing abilities was obtained from an evaluation of a narrative writing assignment.

Adam's handwriting was rated as adequate. His abilities to form letters correctly, to use consistent spacing, to stay on the line, and to form letters automatically were adequate. Adam's spelling of regular and exception words was adequate. Adam's punctuation and capitalization skills (including the correct use of sentence-ending punctuation, internal punctuation, capital letters, and paragraph indentation) were adequate. Adam's use of vocabulary (including age-appropriate, varied, and precise vocabulary) was adequate. Adam's syntax and usage (including using correct word endings, maintaining verb tense, using pronouns correctly, writing complete sentences, and writing sentences of varied length and structure) was adequate.

Adam's narrative text structure was rated as adequate. Qualities rated as adequate include his abilities to provide a setting, to describe the external characteristics of characters, to describe the internal responses of characters, to sequence ideas logically, to highlight important events, to include major details, to use appropriate words to link ideas together, to combine sentences into cohesive paragraphs, and to describe an ending or outcome.

Overall, Adam demonstrated good ability to maintain focus and intent, appropriate voice, and discourse genre. Adam maintained a positive attitude and appeared confident when writing.

SUMMARY

Adam was referred for an evaluation of observed interpersonal problems.

Adam's overall intellectual ability, as measured by the WJ III GIA (Ext), is in the average range of standard scores.

Adam's comprehension-knowledge, long-term retrieval, visual processing, auditory processing, fluid reasoning, processing speed, short-term memory, phonemic awareness, and working memory standard scores are in the average range when compared to others at his age level. No significant strengths or weaknesses were found among the scores for a selected set of Adam's cognitive abilities.

Adam's ability to focus his attention on relevant stimuli is average. His overall ability to plan, monitor, and arrive at solutions to problems is average. His speed in performing cognitive tasks is average.

Adam's oral language skills (oral expression and listening comprehension) are average when compared to the range of scores obtained by others at his age level. Adam's academic skills are in the very low range for his age. Adam's level of knowledge is within the average range. His fluency with academic tasks is within the low range. His ability to apply academic skills is within the very low range.

When compared to others at his age level, Adam's standard scores are low average in broad reading, basic reading skills, brief reading, basic writing skills, and brief writing. His reading comprehension, broad written language, and written expression scores are in the low range. His standard scores are very low (compared to age peers) in broad mathematics, math calculation skills, math reasoning, and brief mathematics. Adam's knowledge of phoneme-grapheme relationships is average. When scores for a selected set of his achievement areas were compared, Adam demonstrated significant strengths in basic reading skills and

listening comprehension. He demonstrated significant weaknesses in math calculation skills and math reasoning.

To help determine if any ability/achievement discrepancies exist, comparisons were made between his cognitive and achievement scores. Based on a mix of the cognitive tasks associated with performance in the particular academic area and most relevant to the specific achievement domain, his achievement is significantly lower than predicted in the areas of reading comprehension, broad mathematics, math calculation skills, math reasoning, broad written language, written expression, brief mathematics, and brief writing.

Inattentive, anxious, and withdrawn behaviors at home were reported by his father. Withdrawn behaviors were reported by his teacher. During a classroom observation, withdrawn behavior was observed.

Although Adam reported that age level tasks that require reading comprehension, that involve basic writing skills, and that require him to express himself in writing are manageable for him, his measured ability in these areas suggests that he should find these tasks very difficult.

Based on his measured ability levels, it appears that Adam is being instructed at a level that is too difficult for him in basic reading skills, reading comprehension, math reasoning, basic writing skills, and written expression.

INSTRUCTIONAL RECOMMENDATIONS & INTERVENTIONS

Adam will probably gain the most from reading instruction presented within the late third grade to early fifth grade range.

Increased time spent reading may increase Adam's exposure to printed words and may result in an increase in the number of words that he can recognize orthographically.

Word recognition strategies may help Adam build automatic sight-word recognition. These strategies include word walls, flow lists, word banks, flash cards, and games. It is beneficial to use high-frequency words when implementing these strategies, as this will enhance Adam's ability to read independently. For example, a word wall might present five high-frequency words that Adam needs to learn. The teacher engages him in activities, both planned and unplanned, which use the words on the wall. Word walls help build word recognition and analysis skills, vocabulary, and serve as a spelling reference.

Adam may benefit from keeping a word bank, a word recognition intervention. Each word is written on a card and then filed alphabetically. A variety of activities can be done with the word bank to assist Adam in learning or recalling sight words. Some activities include illustrating each word on one side of the card, classifying the words into semantic categories, pairing with another student to read their word cards, using word cards to form sentences, or using the words as flash cards.

A sight-word flow list provides a systematic method to help Adam build automatic sight word recognition. (This is a list where words are practiced until mastered and then reviewed systematically to ensure retention.) Using 3-5 words Adam fails to recognize in reading, a teacher would write the words on a flow list form. Adam studies the words and then is tested on the words. Provide daily testing and practice until Adam reads each word correctly five days in a row. When the mastered word is removed from the flow list, it is placed in a word bank and a new word is added. One week later the teacher checks the word in the word bank to ensure that Adam can still read it. If an error is made, the word is placed back again on the sight word flow list to be practiced again.

Translating written words into speech--orally reading words in isolation--may be helpful to Adam in activating and outputting the sound representations of printed words.

Various memory strategies that implement mental imagery are recommended for enhancing vocabulary development. One strategy would teach Adam to connect a new vocabulary word with a "keyword" and then to make a mental picture of that keyword. For example, to learn the new word apex, Adam can picture an ape sitting on the top of a mountain. Another intervention would teach Adam to make mental pictures of what he is reading in addition to carefully studying any visuals included in the text.

A five-step self-questioning technique may be directly taught to Adam across multiple days to improve the comprehension of what he reads. The five questions/self-statements apply to chunks of text, may be placed on a notecard for use as a prompt, and include the following: (1) What are you studying this passage for?; (2) Find the main idea(s) in the paragraph and underline it/them; (3) Think of a question about the main idea you have underlined. Remember what a good question should be like; (4) Learn the answer to your question; and (5) Always look back at the questions and the answers to see how each successive question and answer provide you with more information. During the intervention, Adam writes and reviews responses to these questions/statements with corrective feedback by a teacher.

Teaching Adam to use graphic organizers may allow him to identify and analyze significant components of a text by mapping them out. For example, using the elements of story grammar, Adam can make a web that identifies the important characters, main problems and plot developments, characters' attempts to solve the problems, and the main theme of the text. For expository texts, a Main Idea Map may be used to identify the main ideas and aid Adam's comprehension.

The question generation intervention may help Adam to locate the main idea or key ideas in a passage and generate questions based on that information. This intervention helps Adam think about what he is reading and serves as a good study tool.

Reciprocal teaching is a cooperative group learning strategy that helps develop critical thinking skills through reading. Adam may learn to set a purpose for reading, read for meaning, and self-monitor comprehension. Specific skills that are taught include generating questions, summarizing, requesting clarification, and predicting upcoming information. A teacher models the steps of the strategy for the group and the learners practice using the steps cooperatively.

Multipass is meta-cognitive approach that Adam may master and use to better comprehend textbook content. This intervention is implemented in 10 steps, including a test to determine current learning habits, description of the new learning strategy, modeling of the strategy, verbal rehearsal of the strategy, practice in controlled reading-level materials, corrective feedback, a test to measure progress, practice using grade-level materials, more corrective feedback, and an outcome test. The three strategies, or "Passes," included within *Multipass* include Survey, Size-Up, and Sort-Out. The first pass is Survey Pass and requires Adam to (1) read the chapter title, (2) read the first paragraph, (3) review the table of contents and consider the current chapter's relationship to other chapters, (4) read the subtitles of the chapter and note the chapter's organization, (5) look at the illustrations and read the captions, (6) read the summary paragraph, and then (7) paraphrase all information obtained within this pass. During the Size-Up Pass, Adam (1) looks for cues within the text (e.g., bold face, italics, use of color, etc.), (2) makes the cue into a question (e.g., if *The Revolutionary War* is in italics, a question might be "Why was the Revolutionary War fought?"), (3) skims through the related text to find the answer to the question, and (4) paraphrases the answer without looking at the text. Finally, the Sort-Out Pass requires Adam to complete the questions at the end of the chapter and if he can answer the question immediately, Adam places a checkmark next to the question. If Adam is unable to answer a question, but the answer could be obtained by thinking of the appropriate section in which to look, skimming through the relevant section, thinking of another relevant section if the answer was not at the initial location, and skimming that section, and so on, he places a checkmark next to the question. This procedure is followed until Adam can correctly answer all the questions.

The 3 H strategy (**H**ere, **H**idden, **H**ead) is a mnemonic designed to aid reading comprehension by teaching Adam how to ask and answer questions about a text. The first H, Here, represents explicit questions and answers which are found in the text. The second H, Hidden, represents implicit questions and answers which are implied by the text. The third H, Head, represents information that is not in the text, but in the student's background knowledge. The teacher explicitly teaches the strategy, modeling each step using a think aloud approach followed by guided practice for Adam. One application of this strategy requires that students read the assigned text and then work in pairs to generate questions for each H for another pair to answer.

Adam may benefit from explicit instruction in phonics. Adam may need to be explicitly taught the relationship between each of the sounds (phonemes) and the letters (graphemes) and how to blend the sounds together to pronounce words.

Adam may benefit from a vocabulary-building intervention. Text talks are teacher-led discussions that engage the student in a dialogue about the story that was read and the vocabulary that was used. The teacher makes connections between new words and words and experiences Adam already knows. The teacher should explain the meanings of new words using known words.

Incidental word learning through wide reading depends on the amount of time Adam spends reading. Reading for different purposes and at different levels of difficulty may expose Adam to a variety of new words.

Intentional, explicit teaching of specific words and word-learning strategies may increase Adam's vocabulary as well as his comprehension of text including those words. This type of instruction is designed to develop in-depth knowledge of important words allowing Adam to access the meanings of the words while reading. The teacher should select words that are important to understanding a reading selection or concept. In addition, the words should be ones that Adam is likely to encounter with some frequency while reading.

Use of semantic feature analysis may help Adam analyze the meanings of specific words while integrating the meanings of new words into his vocabulary. In this intervention, a category related to a topic being studied is selected. Keywords related to the topic are identified and a chart is created with the topic listed at the top of the chart and the keywords listed down the left side. Terms that represent features shared by some of the keywords are written as headers for each column. Adam should then place a + or - in each column across from each keyword depending on whether the word has the feature listed. Discussion of each word follows, including similarities and differences between the keywords.

Teaching Adam a variety of independent word-learning strategies may help him become a better and more independent word learner. These strategies should be modeled by the teacher and taught explicitly. Word-learning strategies include teaching synonyms, multiple-meaning words, words that represent concepts, use of a dictionary and other reference aids, identifying and using context clues, and direct instruction in morphology. Teaching the meaningful parts of words (morphemes) may assist in identifying the meanings of unfamiliar words. For best results, direct instruction should include root words, prefixes, and suffixes as well as how the word parts alter meaning.

Using a directed vocabulary thinking activity may help Adam learn how to use context to infer meaning of words he does not know. The teacher selects a few keywords from the reading selection that are likely to be unfamiliar to Adam, presents the list of words without definitions, and asks Adam to guess the definition for each word. Then the teacher shows sentences that the teacher has written for each word. Each sentence incorporates a type of context clue (e.g., direct explanation, contrast, synonym, restatement). Using the teacher's sentences, Adam guesses definitions again and discusses how words in each sentence helped him come up with a definition. Finally, Adam looks up each word in the dictionary, or the teacher provides a definition at Adam's language level.

Encourage Adam and his parents to spend time reading every day outside of school.

Adam may benefit from a cross-age peer-tutoring program either as a tutee or a tutor. To improve Adam's ability to efficiently decode passages, Adam could be paired with an older student from another classroom and then engage in a weekly listening-while-reading intervention. Listening-while-reading requires the more competent tutor to read aloud while the less competent reader follows along. The less competent reader then reads the passage aloud and receives corrective feedback as needed from the tutor.

The direct instruction approach taken by the Corrective Reading program may help Adam further develop efficient word-decoding skills. Teachers within this program provide lessons targeting word attack in which students practice sounding out words of varying sound combinations (10 minutes). Next, students engage in group reading and orally respond to teacher-posed questions (15 minutes). Students finally engage in workbook exercises, some of which are teacher directed, that require students to answer questions after reading passages and completing word activities (15 minutes). The effectiveness of this intervention is further enhanced by adding repeated reading to the Corrective Reading program. Specifically, the repeated-reading intervention would require two students to chorally read an unfamiliar passage to each other a total of four times. For the first round, the tutee would read aloud to the tutor, and the tutor would provide an unknown word after three seconds. Next, the two students would switch roles and follow the same procedure. Both students should have the opportunity to act as tutor and tutee two times each passage. After this has occurred, the pair may move on to another passage.

Strategic Phonemic Awareness/Analysis, Decoding, and Fluency (PDF) training, coupled with explicit instruction of comprehension strategies, may be implemented to enhance Adam's ability to efficiently decode words and comprehend text. The phonemic awareness/analysis/decoding portion of this intervention (about 15 minutes) could use a commercial program to teach Adam how to make sound-symbol associations. Additionally, Adam would be taught five strategies to decode unfamiliar words. The five strategies follow: (1) "peel off" of the prefix and/or suffix, (2) identify familiar chunks of words and sound out each chunk, (3) say each letter of the word aloud, (4) use context by covering the unknown word and using words around it, and (5) use analogies or key words. Comprehension exercises (about 35 minutes) would follow and would make use of the mnemonic SUPER-G (i.e., **S**et goals, **U**se prior knowledge, **P**redict what you think will be in the text, **E**xplain the main idea in your own words, **R**etell the most important parts of the text, and **G**ive yourself feedback). These strategies would be introduced through direct instruction, modeling, collaborative practice, and independent usage. Finally, fluency would be targeted by passage rereading (about 10 minutes). Passage rereading would take the form of a tutor reading the passage aloud with inflection while the tutee reads along silently. Next, the tutee would read the passage alone while the tutor followed along and provided corrective feedback as needed.

Explicit training in word-recognition skills may be attempted to improve Adam's ability to effectively decode words and comprehend what was read. Sixteen individual, one-hour sessions divided into five parts could be undertaken. The first component would include phonological awareness training and instruction to assist Adam in recognizing the phonemes in spoken vocabulary words and identifying each letter in vocabulary words (about six minutes). The next activity would include alphabetic principle training to solidify sound-symbol associations when spelling (about five minutes). Phonological decoding training, in which Adam would divide words into syllables, then phonemes, and then blend the phonemes together, would then occur (about 10 minutes). Structural-analysis instruction would be the next step and would emphasize syllable/morpheme structure and the alphabetic principle by checking for affixes and roots, the syllables within words, and the letter-sound correspondence (about 15 minutes). Finally, oral reading with error correction and comprehension monitoring with repeated reading (about 24 minutes) may prove successful.

Improving Adam's ability to decode text is a necessary target of intervention. DISSECT is a mnemonic for a word-decoding strategy that may be taught to Adam to promote the development of word-decoding and reading-comprehension skills. Significant improvement may be expected in about six weeks after daily 20-minute sessions. The seven steps of DISSECT require students to **D**iscover the context by skipping a difficult word and using the meaning of the remaining words in the sentence to decode the unknown word, **I**solate the prefix from a taught list of prefixes if the previous strategy was unsuccessful, **S**eparate the suffix if further problem solving is necessary, **S**ay the stem after excluding any prefix or suffix, **E**xamine the stem if the word is still unknown, **C**heck with someone like another student, parent, or teacher, and then **T**ry the dictionary and use the pronunciation guide if the previous steps are unsuccessful.

Peer-assisted learning strategies (PALS) are classroom-wide interventions that have well-documented success with underachieving readers. PALS implemented within Adam's classroom may lead to improved reading comprehension in particular as well as improved word-decoding skills. Generally speaking, PALS interventions pair an underachieving student with a high-achieving student. Tutor and tutee roles are reciprocal, but the stronger reader always reads first to serve as a model. Additionally, pairs are typically assigned to one of two teams and points are earned for correct completion of reading activities and appropriate behavior. In elementary and middle school, new teams are reassigned every four weeks. There are three types of activities in which students engage every intervention session. Partner reading is the first activity of every session. Each student reads for five minutes, and when a decoding error occurs, the tutor stops the tutee, calls attention to the error, and asks then asks for a new response. If the second attempt is incorrect, the tutor provides the word, and the sentence is reread. After the students complete approximately 10 minutes of reading, the lower-achieving student retells the content of the text. Points are awarded for accuracy of the oral reading and retelling. Next, PALS sessions employ paragraph-shrinking activities. These activities involve oral reading, but at the end of each paragraph, the tutors instruct the tutee to identify the main idea by pinpointing "who or what" the text was about and what was the most important thing read about the "who or what." These two pieces of information must then be summarized in 10 words or less. If the summary is incorrect, the tutor prompts the tutee to reread the paragraph and try again; if the summary is longer than 10 words, the tutor tells the tutee to "shrink it." Points again are awarded for accuracy. Finally, prediction relay is the last activity. This activity requires the tutee to make a prediction about what will happen in the upcoming text, to read the next half page aloud while the tutor records decoding accuracy, to confirm or disconfirm the initial hypotheses, and then to identify the main idea of what was read. If the tutor does not agree with the tutee, prompts are given to try again. Consistent with the previous activities, points are awarded for accuracy and activity completion.

Teaching Adam the elements of story grammar and story mapping may result in improved reading comprehension of literature. This intervention makes use of direct instruction of story grammar components, story maps prompting strategy use, guided practice, and independent practice. Adam would be taught to identify the major and minor problem or conflict within the story; use character clues such as descriptions of characters' actions, reactions to other characters, and characters' feelings/thoughts and physical appearance---to draw inferences about the text; identify the resolution of the story; and determine the theme of the story by identifying the main character and conflict, considering the story resolution, pinpointing the character clues related to the conflict, and then using the aforementioned elements to create a statement addressing the author's intended message and what the story meant to him. Guided practice is undertaken prior to independent use of the strategies. Students take turns reading in this phase, and a teacher asks story grammar questions. If the student's response is incorrect or incomplete, the teacher would then demonstrate how the answer could be reached using information within the text. As time goes by, the teacher would provide less specific guidance in favor of general questions that prompt strategy use.

Computer assisted instruction may boost Adam's levels of reading comprehension. One researcher-designed program that requires direct teacher instruction uses the empirically validated comprehension strategies of Preview, Click and Clunk, Get the Gist, and Wrap-Up. Preview exercises require the user to brainstorm what is already known about a topic and predict what will be learned. Click and Clunk helps the reader to decipher unknown words when comprehension is difficult. Get the Gist prompts the user to identify the most important ideas within a passage. Finally, Wrap-Up activities include generating questions about what was learned and reviewing the key ideas within the text. Computer-assisted instruction that includes similar instructional strategies may result in improved reading comprehension.

Adam also may benefit from a simple reading accommodation. If Adam listens to a tutor read text while he reads the text silently, or just listens while text is read, more information may be acquired in that fixed amount of time compared to what Adam would accomplish if reading silently and answering comprehension questions.

Math instruction presented within the early to middle kindergarten range will likely produce the greatest gains for Adam.

It may be useful to determine exactly which single-digit addition and subtraction facts Adam knows. Flash cards or index cards can be used. Cards with single-digit addition (e.g., 3 + 2 = ___) or subtraction (e.g., 9 - 5 = ___) problems should be presented to him in random order and the teacher should keep a list of known and unknown basic math facts. The procedure can be repeated several times. Unknown facts become instructional objectives. (As a higher-level variation on the procedure, addition and subtraction problems can be mixed.) Foundational addition and subtraction skills must be acquired for success in higher level math. Any gaps in Adam's mastery of basic addition and subtraction skills or in meaning of calculation signs must be addressed.

Use of manipulatives is essential for building conceptual understanding of math operations. Manipulatives will help Adam understand and apply math ideas, thereby increasing his accuracy and mental representations.

Use of a concrete-representational-abstract sequence insures that Adam understands the computation or fact by first using manipulatives, then drawing representations (pictures or tallies) of the problem, and finally solving the problem with actual numbers.

Use a sequential system to teach Adam how to complete various computations. Teaching the facts in a particular sequence will help Adam organize the information for retention and recall. For example, when teaching addition facts the suggested sequence is the plus-zero principle, plus-one principle, doubles facts, doubles-plus-one facts, doubles-plus-two facts, plus-ten facts, plus-nine facts, and then any remaining facts. For multiplication, the suggested sequence is the times-zero principle, times-one principle, times-two and two-times facts, times-five and five-times facts, times-nine and nine-times facts, perfect squares, and then any remaining facts.

The cover-copy-compare intervention requires teacher-made worksheets that provide correctly completed problems on the left side of the paper and the unsolved problem on the right side of the paper. The teacher instructs Adam to study the correctly completed problem, then cover it with an index card, complete the matching problem to the right, and then check his work by comparing it to the model problem.

Systematic, multisensory approaches, such as Touch Math™, provide an effective means for introducing and improving computational skills. In Touch Math, each number (1-9) has touchpoints (dark circles) that are designed to help Adam associate the numeral with its value. These touchpoints are gradually removed and the student is taught additional strategies for counting on, regrouping, counting backward, sequence counting, and short and long division.

Reciprocal peer tutoring may be a useful approach to help Adam improve math performance through the use of group rewards and self-management procedures. Students monitor their academic progress in a group context, acting as instructional partners for each other, setting team goals, and managing their own group reward contingencies. The intervention takes approximately 30 minutes --- 20 minutes for peer tutoring and 10 minutes for individual class drills and checking. This intervention can be adapted to include a parent component. When teams meet their goals, a reward certificate is sent home for the parents to sign. The parents also indicate what home reward was given, if any.

Peer-assisted learning strategies (PALS), a method of class-wide peer tutoring, may be useful for developing math calculation skills. PALS problem sheets, which are divided into four parts, are provided. First, the tutor models verbal questions and statements required to guide progress to the solution of the math problem. Each statement requires a verbal or written action by the tutee and then an evaluative response by the tutor. Correct answers are circled and incorrect responses trigger additional guiding questions and statements until a correct answer is reached. Next, on the second part of the practice sheet, the tutee completes the problem independently. The procedure is followed again on the third and fourth parts of the sheet, but the tutor and tutee switch roles.

Practice with math fact charts may assist Adam in memorizing his math facts. These organizational structures facilitate memorization and tie new learning to previous knowledge. Before using numerals, be sure that Adam understands the underlying concept (addition, subtraction, multiplication, or division) and can demonstrate the facts with manipulatives.

Explicit timings may help Adam build fluency with math facts while maintaining accuracy. Using math worksheets of 100 basic math facts, the teacher explains that the session will be timed as a means to help students improve their performance and 1-minute timings will be conducted throughout the session. The teacher begins each 1-minute timing by saying, "Pencils up, ready, begin." At the end of the 1-minute interval, the teacher says "stop." The students are directed to draw a line after the last problem answered. This procedure may be repeated three to four times throughout the math period. The students' accuracy and fluency are evaluated using the number of correct problems per 1-minute interval. The results should be graphed or charted by Adam.

Strategy instruction may improve Adam's ability to solve mathematical word problems. One simple strategy involves teaching Adam to (1) read the problem, (2) reread the problem to identify what information is given and to decide what he is trying to find out, (3) identify the operation to use and then use objects to solve the problem, (4) write the numeric representation of the problem, and (5) solve the problem. After teaching the steps to the strategy, provide Adam with a cue card that outlines the steps.

Direct instruction is one of the most effective ways of developing knowledge of math concepts, symbols, and vocabulary. Intentional, explicit teaching of specific mathematical terms and formulas will likely improve Adam's knowledge of quantitative concepts.

Oral explanations by a teacher or tutor, in conjunction with discussions with Adam, will provide opportunities to clarify what he has learned will increase his understanding of quantitative concepts.

Teaching mathematics to Adam should specifically include activities to enhance knowledge of, and ability to think with, a mental number line.

Direct instruction may be one of the most effective ways for building Adam's math calculation and problem-solving skills. Teachers provide instruction in a step-by-step manner, typically implementing six key teaching functions: review, presentation, guided practice, corrections and feedback, independent practice, and weekly and monthly reviews. It may be important to teach Adam in small, guided steps and provide him with opportunities for extensive practice.

Computer-assisted instruction (CAI) allows Adam to progress at his own pace and receive immediate error correction. A variety of websites and computer software programs for building basic math skills are available. Attempt to select a program that is engaging and motivating to Adam.

Concrete-representational-abstract teaching techniques may help improve Adam's math calculation skills. Scripted lessons that include advance organizers (e.g., activities that make connections to previously learned skills, and identify and emphasize the importance of the target skill), demonstration, guided and independent practice with the use of mnemonic reminders, and feedback may prove helpful. One mnemonic strategy is DRAW ("**D**iscover the sign, **R**ead the problem, **A**nswer, or draw and check, and **W**rite the answer").

The concrete-representational-abstract (CRA) instructional sequence may be helpful for developing Adam's math reasoning skills and promoting his understanding of mathematical concepts and knowledge of the number line. For example, when teaching the concept that multiplication is repeated addition using CRA, there are three main steps to complete. The first step (concrete) requires that concrete objects be used to model each concept in the problem. The second step (representational) requires that the concept is modeled at the semi-concrete level, typically through drawings illustrating the problem or number line. The third step (abstract) requires that the concept is modeled using only numbers, notations, and mathematical symbols.

Writing instruction that is presented within the late second grade to early fourth grade level is appropriate for Adam.

The Write-Say method may be helpful in addressing Adam's spelling skills. This intervention requires Adam to study a spelling list on his own on Monday and then to participate in a verbally administered a spelling test on Tuesday. The teacher provides verbal feedback with Adam saying and writing the correct spelling of missed words, letter by letter, five times. The same procedure is followed Wednesday and Thursday; however, practice incorrectly spelled words 10 times and 15 times, respectively. Finally, administer a summative spelling test on Friday.

The Add-A-Word spelling program may assist Adam in developing better spelling skills. To implement this intervention, Adam's teacher provides five daily spelling words. Each word must be correctly spelled five days in a row before an individual word is replaced with a new spelling word. If on subsequent spelling tests a previously learned word is missed, that word is replaced onto the current spelling list until it is mastered again.

Direct instruction in the rules that govern spelling is an important way to help Adam improve his spelling. Teaching spelling rules, such as adding endings to words with a silent e (e.g., take, taking), or adding a suffix to closed syllables ending in a single consonant (e.g., fit, fitting), as well as building knowledge about root words and affixes, gives Adam a means to spell words without relying solely on memorizing how words look.

Group contingencies have been related to improved spelling skills in students with spelling difficulties. The following three approaches to group reinforcement have some empirical backing: (1) reinforcement of the individual based on the individual meeting a teacher set criterion, (2) reinforcement of the group as a whole based on the overall performance of the group, and (3) reinforcement of all within the group dependent on the performance of selected students.

The five-step spelling strategy is an effective, multisensory approach to improving spelling performance. The strategy should be taught explicitly to insure that Adam understands the strategy and can implement it independently. A cue card presenting the five steps of the strategy is provided to the student. The five steps are (1) Say the word, (2) Write and say the word, (3) Check the spelling, (4) Trace and say the word, and (5) Write the word from memory and check it.

Participation in a literate, motivating, risk-free classroom environment may assist Adam in developing a positive attitude toward writing as well as improving his writing skills. A literate classroom features students' written work prominently, is filled with reading and writing materials, and has word lists on the wall. A motivating and risk-free environment is created by the teacher setting an exciting mood that allows for student input and flexibility on topics, and also reinforces and supports the student's accomplishments.

Devote more time to writing. Daily writing practice at school and at home facilitates writing for different purposes and for different audiences. Making the connection between writing and real-world applications is an important motivator in developing Adam's writing skills.

Teach Adam how to combine sentences into more complex structures by using transitional words (e.g., continuation, sequence, conclusion, causal, conditional, and comparison/contrast). Directly teach transitional words to introduce subordinate clauses and to clarify the meaningful relationship among sentences.

Teach Adam how to write various types of sentences. Show Adam an interesting picture and have him generate varied sentence patterns. Begin with practice writing simple sentences and questions. Next, teach Adam how to join and create compound sentences. Then introduce and provide practice writing complex sentences with one clause. Finally, teach Adam how to write compound-complex sentences.

One approach for developing writing skills focuses on a basic framework of three phases: planning, writing, and revision. This framework, combined with explicit instruction in prewriting strategies, may benefit Adam. Teacher modeling of each step and strategy will be crucial to Adam's mastery of the writing process. In addition, frequent feedback is an important component of intervention.

One writing intervention that may be useful for Adam is **S**elf-**R**egulated **S**trategy **D**evelopment (SRSD). SRSD provides explicit instruction in the use of strategies and self-regulating procedures (e.g., goal setting, self-monitoring, self-instruction, and self-reinforcement) to manage the writing process.

Mnemonic strategies, such as the POW Strategy (**P**lan what to say, **O**rganize what to say, **W**rite and say more) or TREE (**T**opic, **R**easons, **E**xamine reasons, **E**nding) may aid Adam when presented with a writing task.

Because different types of writing are based on different structures, explicit instruction in text structures provides a guide for the writing task. For example, a persuasive essay contains a thesis and supporting arguments, while narrative writing contains character and story development. Adam may benefit from instruction in text structures that includes numerous explicit models, practice planning and writing the different structures, and feedback on performance.

Explicit instruction in the mechanics of writing may improve Adam's fluency with writing tasks. His writing fluency may improve if he can spell words phonetically, can spell high-frequency sight words correctly, and has legible writing. In addition, when Adam's focus is on the ideas being expressed rather than on the underlying basic skills, the quantity of his writing may increase.

Provide opportunities for frequent writing practice. Have Adam write frequently, using words from his reading or daily activities. For example, have Adam keep a daily journal, retell a story in his own writing, write captions for pictures, keep a word bank, or prepare a summary or outline of what he has heard.

Encourage inventive spelling so that Adam can write independently and creatively.

Provide explicit instruction in proofreading so that Adam will begin to recognize the areas of his writing that need attention and have a method for finding new errors. As Adam practices proofreading strategies, he will learn which ones work best for him and will become more efficient with the process.

Make a list of the types of errors that Adam is making when writing and then provide practice in detecting and correcting the specific mistake (e.g., starting sentences with capital letters or ending sentences with periods).

Adam may benefit from multiple proofreading strategies including taking a break after completing the writing before proofreading, reading the work aloud, reading through the work slowly, reading one line at a time while covering the other text with his hand or a card, and looking for only one type of error at a time. In addition, teach Adam the importance of proofreading in a quiet environment, free from distractions.

Help Adam build a word bank so that he can find out how to spell words correctly during the editing phase of writing.

One proofreading strategy uses the mnemonic COPS (**C**apitals, **O**verall appearance, **P**unctuation, and **S**pelling). The technique should be modeled first, followed by guided practice. The ultimate goal is to have Adam use the strategy independently. After direct instruction, have Adam write a draft of a composition, using every other line. Then write the mnemonic COPS at the top of the paper. Next, have Adam read through the composition once for each type of error, marking each error with a colored pencil. Have him check off the cue letter at the top of the page after checking for that type of error. After Adam has completed these steps, he can ask someone to double-check his paper. Then he should look up any spelling words and ask for help with any corrections. Finally, Adam should recopy the composition neatly, using every line.

When checking for spelling errors, teach Adam to begin at the end of each sentence and work backward to the beginning. He should look at each word individually, pointing with a pencil. Adam should have a dictionary or word bank for reference.

When checking for punctuation errors, have Adam circle every punctuation mark. This forces him to look at each punctuation mark and evaluate whether it is correct.

Provide Adam with direct instruction and frequent practice in producing correctly punctuated letters and words, including correct use of periods, commas, and other punctuation marks.

Adam should be taught to use a simple punctuation review after each assignment: (1) Is the first word in each sentence capitalized? (2) Did I capitalize all names? (3) Does each sentence have a period, question mark, or exclamation point at the end?

Computer technology may make the writing process easier and more motivating for Adam. Word processing, for example, eliminates the tedious task of recopying during revision. Other technology tools help with spelling, grammar, outlining and semantic mapping, and facilitate collaboration with peers.

Adam will probably benefit the most from oral language instruction that is presented within the middle third grade to middle fifth grade range.

Play games with words to increase Adam's interest in and understanding of word meanings. Word games (e.g., tongue twisters, puns, jokes) may provide enjoyment and motivation.

Use semantic feature analysis to help Adam analyze the meanings of specific words while integrating the meanings of new words. Select a category related to the topic being studied. Identify keywords related to the topic. Create a chart with the topic listed at the top and the keywords listed down the left side. Write words that represent features shared by some of the keywords as headers for each column. Have Adam place a + or - in each column across from each keyword depending on whether the word has the feature listed. Discuss the similarities and differences among the keywords.

Use a semantic map to help Adam understand the relationships among a major topic and the supporting ideas. Have Adam brainstorm words and phrases that are associated with a major concept being studied. Help him to identify which words and phrases go together in some way. Label the supporting details and draw lines to the main concept.

Computer technology may assist in developing Adam's word knowledge because it provides capabilities not available in print materials. For example, Web searches may provide immediate access to meanings, illustrations, and multiple contexts for words. Online dictionaries, reference materials, and content-related websites may all help develop in-depth word knowledge.

The development of background knowledge and experience is critical for understanding the concepts and vocabulary presented in academic textbooks. Adam will benefit from opportunities and experiences that provide exposure to science, social studies, the arts, and music.

Development of Adam's vocabulary knowledge in the areas of science, social studies, and the humanities is important for academic success.

Reading for different purposes and at different levels of difficulty will expose Adam to new words and names of things that may never be encountered in oral language alone.

Adam's academic knowledge may increase with good study skills. Good study habits include: writing down assignments and dates due, keeping an organized binder, allowing sufficient time to study, studying in the same place and time each day, keeping distractions to a minimum, studying immediately when sitting down at the work space, taking short breaks, making a list of new vocabulary words, and asking questions when content is not understood.

Modifying instructional materials in science, social studies, or the humanities may be necessary for Adam. For example, Adam might benefit from using an alternate text that is at his instructional reading level. Content may need to be simplified, such as color-coding the main ideas in a textbook for Adam. Use of advance organizers and study guides will help Adam learn and retain the most important information.

TABLE OF SCORES
Woodcock-Johnson III Normative Update Tests of Cognitive Abilities and Tests of Achievement (Form A)
Woodcock Interpretation and Instructional Interventions Program, Version 1.0
COG norms based on age 11-11; ACH norms based on age 11-10

CLUSTER/Test	Raw	W	AE	Proficiency	RPI	PR (68% Band)	GE
GIA (Ext)	-	506	11-3	average	88/90	41 (36-47)	6.0
VERBAL ABILITY (Ext)	-	508	11-3	average	86/90	41 (32-51)	5.9
THINKING ABILITY (Ext)	-	504	11-4	average	89/90	44 (37-52)	6.0
COG EFFICIENCY (Ext)	-	507	11-7	average	89/90	46 (34-58)	6.2
COMP-KNOWLEDGE (Gc)	-	508	11-3	average	86/90	41 (32-51)	5.9
L-T RETRIEVAL (Glr)	-	501	10-2	average	88/90	32 (20-46)	4.8
VIS-SPATIAL THINK (Gv)	-	503	11-7	average	89/90	47 (35-60)	6.2
AUDITORY PROCESS (Ga)	-	504	11-7	average	89/90	47 (32-62)	6.2
FLUID REASONING (Gf)	-	507	11-8	average	89/90	48 (38-58)	6.2
PROCESS SPEED (Gs)	-	507	11-8	average	89/90	46 (34-58)	6.2
SHORT-TERM MEM (Gsm)	-	508	11-6	average	88/90	46 (31-62)	6.1
PHONEMIC AWARE	-	503	11-1	average	88/90	43 (30-57)	5.7
PHONEMIC AWARE 3	-	500	10-2	average	85/90	31 (22-42)	4.8
WORKING MEMORY	-	509	11-8	average	89/90	48 (36-59)	6.3
BROAD ATTENTION	-	508	11-11	average	90/90	50 (40-60)	6.5
COGNITIVE FLUENCY	-	503	11-7	average	89/90	46 (37-54)	6.2
EXEC PROCESSES	-	506	12-3	average	91/90	54 (45-62)	6.8
KNOWLEDGE	-	504	10-6	lmtd to avg	78/90	27 (19-36)	5.1
ORAL LANGUAGE (Ext)	-	499	9-8	lmtd to avg	80/90	24 (18-32)	4.3
ORAL EXPRESSION	-	498	9-5	lmtd to avg	80/90	25 (16-37)	4.1
LISTENING COMP	-	499	9-11	lmtd to avg	80/90	28 (20-38)	4.5
BRIEF ACHIEVEMENT	-	455	7-4	negligible	1/90	<1 (<1-<1)	2.1
BROAD READING	-	499	9-10	lmtd to avg	69/90	22 (17-27)	4.5
BROAD MATH	-	437	5-6	negligible	0/90	<1 (<1-<1)	K.2
BROAD WRITTEN LANG	-	491	8-9	limited	53/90	7 (4-11)	3.4
BRIEF READING	-	498	9-8	limited	59/90	22 (17-27)	4.3
BASIC READING SKILLS	-	498	9-6	limited	54/90	24 (20-28)	4.2
READING COMP	-	490	8-4	limited	42/90	6 (4-9)	3.0
BRIEF MATH	-	417	5-6	negligible	0/90	<1 (<1-<1)	K.2
MATH CALC SKILLS	-	470	6-9	v limited	9/90	<1 (<1-<1)	1.5
MATH REASONING	-	399	3-11	negligible	0/90	<1 (<1-<1)	<K.0
BRIEF WRITING	-	489	8-6	limited	50/90	9 (6-14)	3.2

CLUSTER/Test	Raw	W	AE	Proficiency	RPI	PR (68% Band)	GE
BASIC WRITING SKILLS	-	492	8-11	limited	50/90	14 (10-20)	3.6
WRITTEN EXPRESSION	-	489	8-6	limited	54/90	5 (3-10)	3.2
ACADEMIC SKILLS	-	485	8-8	v limited	21/90	4 (3-6)	3.3
ACADEMIC FLUENCY	-	490	8-7	limited	61/90	4 (2-7)	3.3
ACADEMIC APPS	-	451	6-8	negligible	1/90	<1 (<1-<1)	1.4
ACADEMIC KNOWLEDGE	-	496	9-5	limited	61/90	15 (9-24)	4.0
PHON/GRAPH KNOW	-	498	9-2	lmtd to avg	72/90	26 (21-32)	3.8
Verbal Comprehension	-	504	10-9	average	83/90	36 (26-48)	5.4
Visual-Auditory Learning	12-E	500	10-2	average	87/90	37 (23-53)	4.8
Spatial Relations	66-D	503	11-6	average	89/90	47 (35-59)	6.1
Sound Blending	20	506	11-9	average	89/90	48 (33-64)	6.3
Concept Formation	28-E	508	12-0	average	90/90	51 (41-61)	6.6
Visual Matching	43-2	509	11-6	average	88/90	44 (29-59)	6.1
Numbers Reversed	13	509	11-6	average	88/90	46 (31-62)	6.1
Incomplete Words	21	501	10-0	average	87/90	38 (22-56)	4.7
Auditory Working Memory	21	510	11-11	average	90/90	50 (38-61)	6.5
General Information	-	511	11-9	average	89/90	47 (33-61)	6.3
Retrieval Fluency	57	501	10-2	average	88/90	31 (19-46)	4.8
Picture Recognition	48-D	502	11-8	average	90/90	49 (35-63)	6.3
Auditory Attention	38	503	11-2	average	89/90	45 (24-68)	5.8
Analysis-Synthesis	24-E	505	11-4	average	88/90	45 (31-60)	5.9
Decision Speed	31	505	11-10	average	90/90	49 (35-64)	6.4
Memory for Words	17	507	11-6	average	88/90	47 (30-66)	6.1
Rapid Picture Naming	110	504	11-10	average	90/90	49 (42-56)	6.4
Planning	-	501	11-4	average	90/90	47 (21-75)	5.9
Pair Cancellation	67	509	12-5	average	92/90	56 (50-62)	7.0
Letter-Word Identification	51	500	9-10	limited	50/90	25 (20-31)	4.5
Reading Fluency	44	499	10-10	average	85/90	34 (22-47)	5.4
Story Recall	-	498	9-4	average	86/90	25 (7-54)	4.0
Understanding Directions	-	499	10-3	average	85/90	36 (23-50)	4.9
Calculation	8	462	7-1	negligible	2/90	<1 (<1-<1)	1.7
Math Fluency	1	477	5-1	limited	32/90	<1 (<1-<1)	<K.0
Spelling	31	494	9-0	limited	51/90	16 (10-23)	3.7
Writing Fluency	14	494	9-3	limited	60/90	12 (6-22)	3.9
Passage Comprehension	29	497	9-2	lmtd to avg	67/90	21 (14-31)	3.8
Applied Problems	5	372	3-3	negligible	0/90	<1 (<1-<1)	<K.0
Writing Samples	17-B	485	7-10	limited	49/90	6 (2-13)	2.5
Story Recall-Delayed	-	499	8-3	average	87/90	27 (5-66)	2.9
Word Attack	19	495	9-0	limited	59/90	26 (21-32)	3.7
Picture Vocabulary	24	498	9-6	lmtd to avg	73/90	27 (18-39)	4.1
Oral Comprehension	19	499	9-9	lmtd to avg	74/90	28 (19-39)	4.4
Editing	10	490	8-10	limited	49/90	14 (9-22)	3.5
Reading Vocabulary	-	484	7-7	v limited	21/90	3 (2-5)	2.3
Quantitative Concepts	-	427	4-11	negligible	0/90	<1 (<1-<1)	<K.0

CLUSTER/Test	Raw	W	AE	Proficiency	RPI	PR (68% Band)	GE
Academic Knowledge	-	496	9-5	limited	61/90	15 (9-24)	4.0
Spelling of Sounds	27	501	9-7	average	82/90	29 (18-41)	4.2
Sound Awareness	33	492	9-2	lmtd to avg	76/90	19 (10-31)	3.8
Punctuation & Capitals	16	496	9-3	limited	62/90	13 (6-22)	3.9
Handwriting	50	-	9-0	lmtd to avg	-	31 (19-47)	3.6

	STANDARD SCORES			VARIATION		Significant at
VARIATIONS	Actual	Predicted	Difference	PR	SD	+ or – 1.50 SD (SEE)
Intra-Cognitive (Ext)						
COMP-KNOWLEDGE (Gc)	97	98	-1	45	-0.11	No
L-T RETRIEVAL (Glr)	93	99	-6	30	-0.52	No
VIS-SPATIAL THINK (Gv)	99	98	1	52	+0.05	No
AUDITORY PROCESS (Ga)	99	98	1	52	+0.06	No
FLUID REASONING (Gf)	99	97	2	56	+0.15	No
PROCESS SPEED (Gs)	98	98	0	50	+0.01	No
SHORT-TERM MEM (Gsm)	99	98	1	52	+0.05	No
PHONEMIC AWARE	97	98	-1	48	-0.05	No
WORKING MEMORY	99	98	1	54	+0.09	No

	STANDARD SCORES			VARIATION		Significant at
VARIATIONS	Actual	Predicted	Difference	PR	SD	+ or – 1.50 SD (SEE)
Intra-Achievement (Ext)						
BASIC READING SKILLS	89	71	18	97	+1.86	Yes
READING COMP	77	69	8	83	+0.94	No
MATH CALC SKILLS	36	81	-45	<0.1	-3.60	Yes
MATH REASONING	9	79	-70	<0.1	-7.15	Yes
BASIC WRITING SKILLS	84	71	13	91	+1.35	No
WRITTEN EXPRESSION	76	75	1	55	+0.13	No
ORAL EXPRESSION	90	74	16	93	+1.48	No
LISTENING COMP	91	73	18	95	+1.67	Yes
ACADEMIC KNOWLEDGE	85	71	14	91	+1.34	No

	STANDARD SCORES			DISCREPANCY		Significant at
DISCREPANCIES	Actual	Predicted	Difference	PR	SD	+ or – 1.50 SD (SEE)
*Predicted Achievement/Achievement Discrepancies**						
BROAD READING	88	97	-9	21	-0.80	No
BASIC READING SKILLS	89	97	-8	24	-0.70	No
READING COMP	77	96	-19	2	-1.99	Yes
BROAD MATH	12	97	-85	<0.1	-7.83	Yes
MATH CALC SKILLS	36	98	-62	<0.1	-5.02	Yes
MATH REASONING	9	97	-88	<0.1	-8.70	Yes
BROAD WRITTEN LANG	78	97	-19	4	-1.80	Yes
BASIC WRITING SKILLS	84	97	-13	11	-1.24	No
WRITTEN EXPRESSION	76	98	-22	3	-1.86	Yes
ORAL LANGUAGE (Ext)	90	99	-9	21	-0.82	No
ORAL EXPRESSION	90	99	-9	24	-0.70	No

DISCREPANCIES	STANDARD SCORES Actual	Predicted	Difference	DISCREPANCY PR	SD	Significant at + or – 1.50 SD (SEE)
Predicted Achievement/Achievement Discrepancies (continued)*						
LISTENING COMP	*91*	*99*	*-8*	*27*	*-0.62*	*No*
ACADEMIC KNOWLEDGE	*85*	*96*	*-11*	*11*	*-1.24*	*No*
BRIEF READING	*88*	*97*	*-9*	*21*	*-0.80*	*No*
BRIEF MATH	*11*	*97*	*-86*	*<0.1*	*-7.69*	*Yes*
BRIEF WRITING	*80*	*97*	*-17*	*6*	*-1.54*	*Yes*

**These discrepancies compare predicted achievement scores with Broad, Basic, Brief, and Applied ACH clusters*

DISCREPANCIES	DISCREPANCY PR	SD (or z)	Significant at + or – 1.50 SD (SEE)	Interpretation
*Measures of delayed recall**				
Story Recall-Delayed	*63*	*+0.33*	*No*	*Within normal limits*

**These discrepancies are based on the predicted difference between initial and delayed scores.*

Descriptions of WJ III Tests Administered

Verbal Comprehension measured aspects of Adam's language development in spoken English language, such as knowledge of vocabulary or the ability to reason using lexical (word) knowledge.

Visual-Auditory Learning required Adam to learn, store, and retrieve a series of visual-auditory associations. On this test of associative and meaningful memory, Adam was asked to learn and recall rebuses (pictographic representations of words).

Spatial Relations required Adam to identify the two or three pieces that form a complete target shape, a visualization-of-spatial-relationships task.

Sound Blending measured Adam's skill in synthesizing language sounds (phonemes). He was asked to listen to a series of syllables or phonemes and then to blend the sounds into a word.

Concept Formation measured Adam's categorical reasoning ability. This test also measured Adam's flexibility in thinking. Adam was presented with a complete stimulus set from which to derive the rule for each item. Immediate feedback was provided regarding the correctness of each response before a new item was presented.

Visual Matching measured an aspect of cognitive efficiency-- the speed at which Adam can make visual symbol discriminations. Adam was asked to locate and circle the two identical numbers in a row of six numbers. This task proceeded in difficulty from single-digit numbers to triple-digit numbers and had a 3-minute time limit.

Numbers Reversed required Adam to hold a span of numbers in immediate awareness (memory) while performing a mental operation on it (reversing the sequence).

Incomplete Words measured auditory analysis and auditory closure, aspects of phonemic awareness and phonetic coding. After hearing, from an audio recording, a word that has one or more phonemes missing, Adam was asked to identify the complete word.

Auditory Working Memory measured Adam's short-term auditory memory span. He was asked to listen to a series that contains digits and words, such as "dog, 1, shoe, 8, 2, apple." He was then asked to reorder the information, repeating first the objects in sequential order and then the digits in sequential order. This task required Adam to hold information in immediate awareness, divide the information into two groups, and shift attentional resources to the two new ordered sequences.

General Information provided an index of Adam's general verbal knowledge. This test has two subtests. In the first subtest, Adam was asked, "Where would you find... (an object)?" In the second subtest, he was asked, "What would you do with... (an object)?" The initial items involved objects that appear commonly in the environment. The items became increasingly difficult as the selected objects become more unusual.

Retrieval Fluency measured Adam's fluency of retrieval from stored knowledge. He was asked to name as many examples as possible from a given category within a 1-minute time period. The task consisted of three different categories: things to eat or drink, first names of people, and animals.

Picture Recognition measured visual memory of objects or pictures. Adam's task was to recognize a subset of previously presented pictures within a field of distracting pictures.

Auditory Attention measured an aspect of speech-sound discrimination-- the ability to overcome the effects of auditory distortion or masking in understanding oral language. This is an auditory processing ability requiring selective attention. Adam's task was to listen to a word, while seeing four pictures, and then point to the correct picture for the word. As the test progressed, the task increased in difficulty in two ways: the sound discriminations became increasingly difficult and added background noise increased in intensity.

Analysis-Synthesis measured Adam's ability to reason and draw conclusions from given conditions (or deductive reasoning). He was given instructions on how to perform an increasingly complex procedure; he was also given immediate feedback regarding the correctness of each response before a new item was presented.

Decision Speed measured Adam's ability to make correct conceptual decisions quickly. In each row, his task was to locate quickly the two pictures that are most similar conceptually. This test had a 3-minute time limit.

Memory for Words measured Adam's short-term auditory memory span. In this test, he was asked to repeat lists of unrelated words in the correct sequence.

Rapid Picture Naming required naming facility, a form of cognitive fluency. This test measured Adam's speed of direct recall of information from his acquired knowledge. This test had a 2-minute time limit.

Planning provided information about the processes Adam used to determine, select, or apply solutions to problems, such as forethought. On this test, Adam was asked to trace a pattern without removing the pencil from the paper or retracing any lines.

Pair Cancellation provided information about Adam's ability to control interferences, sustain his attention, and stay on task in a vigilant manner. In a 3-minute time period, he was asked to locate and mark a repeated pattern as quickly as possible.

Letter-Word Identification measured Adam's ability to identify letters and words. He was not required to know the meaning of any word.

Reading Fluency measured Adam's ability to quickly read simple sentences, decide if the statement is true, and then circle Yes or No. He was asked to complete as many items as possible within a 3-minute time limit.

Story Recall measured aspects of Adam's oral language ability including language development and meaningful memory. The task required him to recall increasingly complex stories that were presented using an audio recording. After listening to a passage, Adam was asked to recall as many details of the story as he could remember.

Understanding Directions required Adam to listen to a sequence of audio-recorded instructions and then follow the directions by pointing to various objects in a picture.

Calculation measured Adam's ability to perform mathematical computations.

Math Fluency measured Adam's ability to solve simple addition, subtraction, and multiplication facts quickly. He was presented with a series of simple arithmetic problems to complete in a 3-minute time limit.

Spelling measured Adam's ability to write orally presented words correctly.

Writing Fluency measured Adam's skill in formulating and writing simple sentences quickly. He was required to write sentences relating to a given stimulus picture that includes a set of three words. This test had a 7-minute time limit.

Passage Comprehension measured Adam's ability to understand what is being read during the process of reading. Test items required Adam to read a short passage and identify a missing key word that makes sense in the context of the passage.

Applied Problems measured Adam's ability to analyze and solve math problems. To solve the problems, he was required to listen to the problem, recognize the procedure to be followed, and then perform relatively simple calculations. Because many of the problems included extraneous information, Adam needed to decide not only the appropriate mathematical operations to use but also what information to include in the calculation.

Writing Samples measured Adam's skill in writing responses to a variety of demands. He was asked to produce written sentences that were evaluated with respect to the quality of expression. Adam was not penalized for any errors in basic writing skills, such as spelling or punctuation.

Story Recall--Delayed measured aspects of Adam's language development and meaningful memory using previously presented stories. The task required him to recall the story elements that were previously presented in *Story Recall*.

Word Attack measured Adam's skill in applying phonic and structural analysis skills.

Picture Vocabulary measured Adam's oral language development and word knowledge. This was primarily an expressive language task at the single-word level.

Oral Comprehension measured Adam's ability to comprehend a short audio-recorded passage and then supply the missing word using syntactic and semantic cues. This oral language cloze procedure required use of listening, reasoning, and vocabulary abilities.

Editing measured Adam's skill in identifying and correcting errors in written passages, such as incorrect punctuation or capitalization, inappropriate word usage, or misspellings.

Reading Vocabulary measured Adam's skill in reading words and supplying appropriate meanings. He was administered three subtests: Synonyms, Antonyms, and Analogies. The first subtest required Adam to read words and provide synonyms. The second subtest required him to read words and then provide antonyms. The third subtest required Adam to read three words of an analogy and then provide the fourth word to complete the analogy.

Quantitative Concepts measured Adam's knowledge of mathematical concepts, symbols, and vocabulary. There were two subtests administered: Concepts and Number Series. In the first subtest, he was required to count and identify numbers, shapes, sizes, and sequences. In the second subtest, the task required Adam to look at a series of numbers, figure out the pattern, and then provide the missing number in the series.

Academic Knowledge sampled Adam's knowledge in the sciences, history, geography, government, economics, art, music, and literature.

Spelling of Sounds measured Adam's spelling ability, particularly phonological and orthographical coding skills. The test items required him to listen to an audio recording and then spell letter combinations that are regular patterns in English spelling. The items are nonwords or low-frequency words.

Sound Awareness measured Adam's awareness of phonology. Four subtests were administered: Rhyming, Deletion, Substitution, and Reversal. The initial items of the Rhyming subtest required only a pointing response. The remaining items required him to provide a word that rhymes with the stimulus that is presented orally. The Deletion subtest required Adam to remove part of a compound word or a letter sound from a word to make a new word. The Substitution subtest required him to substitute a word, a word ending, or a letter sound to create a new word. The Reversal subtest required Adam to first reverse parts of compound words and then reverse letter sounds of words to create new words.

Punctuation & Capitalization measured certain written English formatting skills. The task required Adam to punctuate or capitalize items correctly.

Handwriting is a norm-based evaluation of Adam's handwriting.