SAMPLE OF ADOLESCENT LD EVALUATION

CONFIDENTIAL

PSYCHOEDUCATIONAL EVALUATION

Name: **Adam Practice**
Date of Birth: **11-25-84**
Age: **16 years**
Parent Interview: **9-16-01**
Testing Dates: **9-29-01, 10-5-01, 10-12-01, 10-19-01**
Summary Conference: **10-25-01**
Tests Given: **Beery-Buktenica Developmental Test of Visual-Motor Integration (VMI)**
Hooper Visual Organization Test (VOT)
Rey Complex Figure Test
Wechsler Adult Intelligence Scale – Third Edition (WAIS-III)
Woodcock-Johnson – Third Edition (WJ-III):
Tests of Achievement, Select Subtests
Tests of Cognitive Abilities, Select Subtests

PRIMARY REFERRAL CONCERNS

Adam's parents requested a psychoeducational evaluation of their 16-year-old son at the recommendation of his high school guidance counselor. Adam is highly verbal and excels in most academic areas but has a history of significant difficulty with math courses. A special education evaluation in the 1st grade identified processing delays in the nonverbal domain, including visual-motor integration, visual-processing speed, and visual-perceptual skills. Academic delays in the areas of reading, math and writing were remediated by the 3rd grade and, although eligible for educational accommodations and modifications through Section 504, Adam has attended regular education classes with no educational interventions in place. In high school, Adam has succeeded in Advanced Placement and Honors classes but has struggled with math classes.

BACKGROUND INFORMATION

CONDENSED FOR SAMPLE REPORT PURPOSES.

Developmental/Family: Normal pregnancy and delivery. Developmental milestones within normal limits.

Health/Medical: Adam has been a healthy youngster. He has had no stitches, surgeries or overnight hospitalizations.

Social/Emotional/Behavioral: Adam's social and emotional development has been normal.

Educational: Adam has attended public schools throughout his education. He was referred for a special education evaluation in grade 3. Testing at that time revealed general cognitive ability at the very superior level (99th percentile). Adam displayed strong memory skills (WJ-R, Memory, 98th percentile).

Testing also showed academic achievement at the low average to average levels in all areas (WJ-R, Reading, 9th percentile; Math, 34th percentile; Writing, 24th percentile). There was a significant delay in visual processing speed (WJ-R, Perceptual Speed, 16th percentile), a weakness in his fine motor skills (VMI, 16th percentile), and inconsistent skill in visual tracking. bottom, then top, or bottom to top, and sometimes he responded right to left."

As a result of that evaluation, Adam was identified as having a Specific Learning Disability and special educational services were recommended. Adam attended the Resource Specialist Program throughout grades 1, 2, and 3, with IEPgoals in reading, math, written language, self-concept, and visual perception. Adam gained the requisite skills in all of these areas and he "graduated" from special education at the end of the 3rd grade by mastering all of his IEP goals.

Adam has attended regular education classes since the 3rd grade and has not received any educational modifications or accommodations. He has, however, struggled with math throughout his school years and has encountered significant difficulty during high school. Adam's academic performance in high school is very interesting, in earning grades of A's and B's in Honors and Advanced Placement classes in English, French, and History courses since the 9th grade, but failing Algebra-Trigonometry in the 11th grade.

He obtained C's in Algebra in the 9th grade, a C and a D in Geometry in the 10th grade, and a D and an F in Intermediate Algebra-Trigonometry in the 11th grade. He enrolled in this course again during summer school and again earned a D in the class. Adam has worked with tutors regularly, has sought extra help from teachers, but has struggled with math consistently.

BEHAVIORAL OBSERVATIONS

Adam is a 16-year-old Caucasian teenager who was a cooperative participant in the testing process. Adam did not appear to be at ease with the examiner, staying quiet most of the time during testing sessions. He did, however, adapt to the testing situation and was fully cooperative with all demands placed upon him. It appeared that Adam wanted to focus on the testing and to complete what was needed.

His approach to testing varied based on the nature of the tasks. During orally presented verbal tasks, Adam often cut off the examiner before the question was completed and then answered the question correctly. On these tasks, he often responded at a very fast pace as he maintained focus and concentration. Conversely, on many of the nonverbal visual-perceptual tasks, Adam proceeded at a much slower pace and expressed dissatisfaction with his performance.

On paper-and-pencil tasks, the examiner observed that Adam had an unusual approach of jumping around on the page instead of proceeding sequentially. For example, on the Math Fluency subtest, Adam was required to complete as many simple math problems as possible within a 3-minute time limit. The typical pattern is to begin at the first item on the first line and to

proceed sequentially left to right, completing one row and going on to the next row. Adam worked in this horizontal pattern for awhile, but then switched to a vertical pattern, moving down one column and then proceeding up the next column. He also jumped around on the pages, following no obvious pattern. All of the items were simple math problems, so his approach was not due to skipping harder items to do easier items. This inconsistent approach to tasks was also observed when Adam was in the 1st grade, by an examiner in the special education evaluation.

ASSESSMENT RESULTS AND IMPRESSIONS

Cognitive Functioning: As measured by the WAIS-III, Adam's general cognitive ability is estimated to fall within the average to high average range of intellectual functioning. His overall thinking and reasoning abilities exceed those of approximately 70% of children his age.

There is, however, a significant 27-point difference between Adam's superior verbal abilities and his average to low average nonverbal abilities. A point difference of this size was seen in only 1.6% of the standardization sample, so it is an unusual and meaningful difference in the way that Adam processes information. Therefore, a global score does not accurately report Adam's abilities and analysis of his test results will be organized into more specific indexes to create a profile of his strengths and relative weaknesses.

When the test results are broken down into more specific domains, even larger point discrepancies are apparent. There is a 38-point difference between his verbal comprehension and perceptual organizational ability; a point difference of this size was seen in only 0.3% of the standardization sample. This is an exceptionally large discrepancy that indicates that Adam harbors a wide gap between his verbal abilities, which are extremely well developed, and his nonverbal/spatial processing abilities, which represent areas of relative and normative weakness for him.

In addition to this verbal-nonverbal discrepancy, Adam exhibits several other differences that affect his learning process. His superior verbal comprehension ability (VCI, 95th percentile) is significantly more developed than his average working memory skill (WMI, 34th percentile). This is somewhat unusual because both are verbal abilities and indicates uneven development within the verbal domain. The 30-point difference between these scores occurred in only 2.3% of the standardization sample, so, again, it is a highly unusual finding.

There is also uneven development within the nonverbal domain. Adam's high average processing speed (PSI, 82nd percentile) is more developed than his low average perceptual organization ability (POI, 18th percentile). The 28-point score difference is an infrequent finding, seen in only 4.9% of the normative sample.

There is one more discrepancy, between his high average processing speed and his average working memory (PSI, 82nd percentile versus WMI, 34th percentile). This is a 20-point difference seen in 17.2% of the population, so it is not as rare as the other findings, but again reflects the uneven development in Adam's cognitive abilities.

Adam exhibits uneven development between his verbal and nonverbal abilities, but also within each domain. Students who exhibit multiple discrepancies tend to experience frustration in their learning process. Cognitive science research suggests that learning is not efficient for these

students and that the brain actually has to work harder to process information. An efficient brain works like an automobile motor that is running well; it is reliable, it responds to cues, and it arrives at the intended destination. An inefficient brain encounters obstacles and needs to take detours, to route information through parts of the brain that are typically not associated with those functions. This can manifest in many ways in learners: in feeling frustrated, in struggling, in giving up, in feeling dumb, in feeling confused.

Due to the variation in and the complexity of Adam's test results, they are organized and analyzed below by specific cognitive domains in order to create the most accurate profile of Adam's cognitive abilities.

Verbal Comprehension and Knowledge is the ability to learn, to reason and to solve problems through the use of language and previously learned verbal information. A strong knowledge base is essential in continuing successfully through school, as this base is added to continuously. The WAIS-III verbal comprehension index shows that Adam's verbal comprehension abilities are evenly developed at the superior level (VCI, 95th percentile).

When required to give oral definitions of words, Adam's vocabulary skills are exceptionally well developed (Vocabulary, 95th percentile). Analysis shows that his superior vocabulary skill is even more developed that his other well developed verbal abilities. His ability to use his vocabulary knowledge to formulate abstract concepts is strong (Similarities, 91st percentile). On this subtest, Adam was required to respond orally to a series of word pairs by explaining how the words are alike (i.e., How are red and blue alike?). This subtest examined Adam's abstract verbal ability to find meaningful concepts and relationships in verbally presented material.

His knowledge of general information is also very strong, reflecting exposure to the information as well as alertness to the world around him (Information, 91st percentile). This shows good long-term memory and recall of factual information.

Adam's knowledge of conventional social behavior is another strength, with a score at the very superior level (Comprehension, 99th percentile). This subtest required him to provide oral solutions to everyday problems and to explain the underlying reasons for certain social rules or concepts.

Visual Processing and Perceptual Organization include the abilities to organize visual information, to analyze and synthesize visual information, and they involve perception and manipulation of visual shapes and forms. Adam's performance was at the low average level (WAIS-III, POI, 18th percentile and WJ-III, Visual-Spatial Processing, 22nd percentile), with a few scores at the average level.

Visual-Spatial-Construction: Adam scored within the average range on a task measuring visual-spatial-constructive abilities (Block Design, 63rd percentile). On this subtest, he was required to use two-color cubes to copy geometric patterns. This task measured his ability to organize visual information mentally and to analyze a whole into its component parts. This measured deductive reasoning skills, as the whole was presented and he needed to break it down into its parts in order to reconstruct it.

His performance was lower on an inductive reasoning task that required him to select the pieces that constructed a whole by visualizing spatial relationships between the parts of the geometric forms (WJ-III, Spatial Relations, 21st percentile). This task became more difficult as the drawings of the pieces were flipped, rotated, and became more similar in appearance.

Both of these subtests (Block Design and Spatial Relations) required spatial skills, but Adam's performance suffered when he needed to rely solely on visualization skills, as opposed to manipulating blocks to create designs (50th versus 21st percentile). These subtests differed in reasoning style, one being deductive and the other being inductive, but they both used unfamiliar geometric shapes and designs rather than familiar objects.

On another inductive reasoning task that required spatial-perceptual organization, he scored within the average range (Object Assembly, 50th percentile). This was a "hands-on" task required him to put together pieces to form common objects by organizing spatial information and understanding the relationship between the parts. A comparison of these subtests (Object Assembly and Spatial Relations) shows that Adam did better using hands-on materials that created familiar objects than he did using visualization skills to create nonmeaningful geometric forms.

On a task that resembles Object Assembly, of putting pieces together to create a familiar whole object, Adam was required again to visualize the assembly of pieces and state the familiar objects that the pieces created. Adam scored at the average level (Hooper VOT, T-Score=58).

A summary of visual-spatial-construction skills indicates that Adam performs best when tasks are hands-on, with things to manipulate, regardless of whether they create familiar or unfamiliar objects. When required to use visualization skills to construct objects, he does better visualizing familiar rather than unfamiliar objects or shapes.

Fluid Reasoning: Fluid reasoning is the ability to reason, to form concepts, and to solve problems that may be novel to the individual and that may include unfamiliar information. These subtests administered to Adam did not require spatial processing or visualization.

He demonstrated average skill in generating the underlying rule that governed a set of colored geometric figures, or inductive reasoning (WJ-III, Concept Formation, 44th percentile). This also measures a type of executive processing, the ability to shift mental sets repeatedly. On this subtest, Adam was required to analyze the visual data and then to verbalize the rule.

His ability to analyze the parts of an incomplete logic puzzle and identify the missing parts through deductive reasoning was relatively less developed (WJ-III, Analysis-Synthesis, 18th percentile). A salient difference between these two measures is that the Analysis-Synthesis is completely nonverbal, whereas the Concept Formation subtest requires language, which may have enhanced his performance. The Analysis-Synthesis subtest is a miniature mathematics logic system, and Adam's relatively weaker performance on this is consistent with his reported math difficulties.

On another fluid reasoning subtest, Adam scored at a very low level. For this task, he needed to analyze a whole pattern and then identify solutions that either completed the whole or that adhered to a pattern that followed an unstated rule (WAIS-III, Matrix Reasoning, 9th percentile). This was a measure of nonverbal deductive reasoning.

Visual Processing: On a subtest measuring his ability to organize visual information into a meaningful sequence, his performance fell below the average level (Picture Arrangement, 16th percentile). On this task, he was required to rearrange each set of randomly ordered pictures into a logical story sequence. These are pictures of realistic situations and performance reflects the capacity to anticipate and plan in a social context. This is a visual-sequencing task, and his weak performance is consistent with observations made by this examiner and by an examiner who tested Adam in the 1st grade. Adam does not consistently follow a predictable sequence when working on visual tasks.

Adam scored at a very low level when required to identify the missing part in pictures of common objects and scenes (Picture Completion, 9th percentile). This subtest requires ability in visual discrimination and the ability to detect essential details and to differentiate them from nonessential details. Performance on this task can be influenced by general level of alertness to the world around him and long-term visual memory. In order to detect the missing part, Adam needed visual memory of the whole.

Adam encountered significant difficulty on a task that required him to trace patterns without lifting the pencil from the paper or retracing any of the lines (WJ-III, Planning,18th percentile). This is a measure of mental control and forethought, but Adam described that all the lines were "all jumbled and very confusing" to him and that it would "take forever" to plan a path without retracing. This task required examination of the pattern to plan the visual path, or sequence, and it appears that Adam's difficulties in visual sequencing and perception impacted his performance on this task.

Visual-Motor Integration: Adam's performance on visual-motor integration tasks was very inconsistent. On the VMI, he performed at the low average level in his ability to copy designs from a visual model (21st percentile) and scored at 14-year-old age equivalence, which is almost 3 years below his chronological age. However, on the Rey Complex Figure, he copied a figure that is much more complex that the VMI designs, earning 33 of 36 points. This inconsistency in copying designs may stem from changes in his motivational level.

Difficulties with his handwriting, however, are quite consistent. In several samples of written work, Adam's handwriting was slanted and spaced inconsistently. The size was fairly uniform, but the letter formation was not. His handwriting was readable, but based on the WJ-III Legibility Scale; he performs at a very low level (2nd percentile). This weakness was noted in the early testing completed during Adam's 1st grade school year, and have persisted.

Attention and Memory: Adam's ability to sustain attention, to concentrate, and to exert mental control on auditory tasks falls at the average level (WMI, 34th percentile). This is less developed than predicted by Adam's superior verbal ability and does impact his learning process. Working memory is critical to learning in multiple ways. Working memory allows the student to remember a question while trying to recall the answer, to think about a new concept while integrating it with known information, to hold together components of a task while completing the task, and to hold together new pieces of information so that they remain meaningful.

Auditory Memory: The WAIS-III subtests that comprise the Working Memory Index require strong auditory attention and auditory short-term memory for good performance. In his immediate rote recall of digits forwards and backwards, Adam scored at the average level (Digit Span, 63rd percentile). He repeated a string of 8 digits forward and 6 digits backward. This shows adequate development in rote memory, immediate recall, and in his ability to attend to auditory stimuli for a very short time period.

Adam's mental math calculations, however, were relatively less developed (Arithmetic, 25th percentile). This subtest requires numerical reasoning and working memory, which is holding the information while simultaneously working with it mentally. When required to reorganize data into sequential numerical and alphabetical order, Adam also scored at the average to low average level (Letter-Number Sequencing, 25th percentile).

Adam's strongest performance on auditory memory tasks was on a measure of memory for a list of unrelated words. Adam was required to repeat them in the correct sequence, and he scored at the high average level (WJ-III, Memory for Words, 84th percentile).

In analyzing all of the auditory memory tasks, it is not surprising that Adam did better in his recall of words than of numbers, given his verbal strength and his math weakness.

Visual Memory: Adam scored at the average level when processing purely visual information for recall of familiar objects (WJ-III, Picture Recognition, 33rd percentile). On this subtest, Adam was required to recognize a subset of previously presented pictures within a field of distracting pictures.

On the memory phases of the Rey Complex Figure, Adam's performance reflects difficulty with storage of visual information. After copying the figure from a model, he was required to copy it from memory, and Adam did quite well (Immediate Recall, 96th percentile). After a 20-minute delay, he was required to copy it again, and his performance declined significantly (Delayed Recall, 16th percentile). After another time delay, his ability to recognize parts of the whole drawing was even weaker (Recognition, 4th percentile).

Visual-Auditory Memory: A novel learning task was presented which required Adam to make associations between a visual symbol and a word. In this task, each symbol represented a different word and, after learning several associations in each trial, Adam "read" sentences using the symbols. This required Adam to learn, store, and retrieve a series of visual-auditory associations. Adam's memory skills fell within the average range and he commented that this task was very hard for him (WJ-III, Visual-Auditory Learning, 56th percentile).

Processing Speed is the ability to perform cognitive tasks automatically, particularly when under pressure to maintain focused attention. Processing speed is important to learning because one needs to process routine information quickly in order to comprehend more complex information that requires reasoning.

Visual Processing Speed: The WAIS-III processing speed subtests are visual in their design. Adam scored within the high average range (PSI, 82nd percentile) but the subtest scores are so different that the index score does not accurately describe his performance. It is more accurate to analyze the subtest scores individually.

On these tasks, he was required to quickly scan and sequence simple visual information. He was able to make paired associations and code abstract symbols quickly and accurately (Digit Symbol-Coding, 95th percentile). This was a speeded, clerical task that was sensitive to the ability to learn associations between symbols and it can be influenced by short-term visual memory of the learned associations.

Adam's performance on the second subtest suggests that his rapid visual discrimination of abstract visual symbols is adequate (Symbol Search, 50th percentile). He was able to find the symbol that matched the target symbol in a row of many different symbols, which required accurate visual tracking. This was nonverbal and would be similar to having him identify a single letter from a row of many different letters.

Verbal Processing Speed: Several of the WJ-III subtests measured verbal fluency. Adam was required to name as many examples as possible from a given category within a 1-minute time period. Adam scored at the high average level in retrieving this stored knowledge (WJ-III, Retrieval Fluency, 90th percentile). This was purely a verbal task and Adam had to name familiar things.

Visual/Verbal Processing Speed: On a test of cognitive efficiency that measured the processing of simple concepts, Adam scored within the average range (WJ-III, Decision Speed, 65th percentile). He was required to locate two pictures that are most similar conceptually, so this was a combination of visual processing and verbal concept formation

On another task that measures naming facility, Adam scored within the low average range (WJ-III, Rapid Picture Naming, 19th percentile). Adam looked at pictures and named the objects as quickly as possible, so this was a combination of visual and verbal processing.

ACADEMIC ACHIEVEMENT: Development in academic skills was assessed in the areas of reading, math, and written language.

Broad Reading: Within the reading domain, skills were assessed in the areas of sight word identification, reading fluency, and reading comprehension. On the WJ-III, Adam's reading test scores fall within the superior range (Broad Reading, 92nd percentile). He demonstrated superior skill in pronouncing familiar and unfamiliar words (Letter-Word Identification, 96th percentile).

Adam scored within the high average range on a measure of reading fluency. This timed subtest required him to read brief statements and then determine if each statement was true or false (i.e., "A cow is an animal." "A fish lives on land.") (Reading Fluency, 90th percentile).

Adam scored within the average range on a measure of reading comprehension and vocabulary skills by identifying a missing key word in a short written passage (Passage Comprehension, 51st percentile). Adam clearly performs at a level higher than this in Honors English courses, so his average performance on this task is not easy to understand.

Broad Mathematics: Math skills were assessed in math calculations, math fluency, in analyzing and solving practical problems in math, and in knowledge of math concepts. Overall, Adam's scores fall within the average range (Broad Mathematics, 33rd percentile).

Adam's skill in analyzing and solving practical problems in mathematics falls within the average range (Applied Problems, 43rd percentile). In this subtest, questions were read to him orally and he followed along from a printed version. Adam also scored at the average level in his ability to

calculate as many easy numerical math problems as he could in a 3-minute period (Math Fluency, 36th percentile). This was the subtest where he jumped around on the pages instead of working sequentially.

His performance was weaker in his ability to calculate math problems with paper and pencil on an untimed test (Calculation, 23rd percentile). In his knowledge of mathematical concepts, symbols and vocabulary, Adam also scored at the low average level (Quantitative Concepts, 24th percentile).

Written Language: Adam's writing skills were assessed in the areas of spelling, writing fluency, and writing samples. His overall score falls within the superior range (Written Language, 94th percentile).

Adam's spelling skills are well developed, at the superior level (Spelling, 92nd percentile). This task required him to spell orally presented words. Adam also performed at the superior level in formulating and writing simple sentences quickly (Writing Fluency, 95th percentile). This was a timed test that required him to write a sentence that relates to a given picture and to use a set of three words.

Adam's average performance on a writing task was lower than expected (Writing Samples, 31st percentile). This was a very structured writing sample, where he was required to meet very specific demands. He evidenced difficulty on the items that required writing a sentence that fit between a first and a third sentence. He seemed to give up pretty quickly on these items, saying that he just couldn't figure out what they wanted. When analyzed in the context of his difficulty with sequencing, it appears that Adam could not follow the sequence well enough to fill in the missing step.

Ability-Achievement Analysis: Adam's strength in verbal ability is reflected in his reading and writing skills, which fall within the superior range of development, with the exception of two average scores in the areas of reading comprehension and writing sentences. Adam achieves at a higher level in his coursework, so these scores do not appear to represent his ability in these areas. On the writing samples, Adam encountered difficulty on specific items that required the ability to link together a 1st and a 3rd sentence by writing a 2nd sentence that made sense. As noted, Adam's weaker performance on this may have stemmed from his sequencing difficulties.

Adam scored at average to low average levels in math, which is a significantly below his superior verbal skills. Adam's difficulties in working memory, fluid reasoning, visual-spatial reasoning, and temporal-sequencing provide the basis for understanding his protracted math struggles. Math requires constant movement back and forth from very symbolic representations (numbers, operational signs, unknowns) to practical applications. With sequencing difficulties, it is likely that Adam loses his place in the steps during the shifting back and forth. Adam's relative weakness in working memory skills also contributes to losing track of where he is in the middle of a problem.

Adam does not consistently use sequential strategies in his problem-solving skills. While this may help him in more creative endeavors, math requires the use of systematic approaches for problem solving. Math also requires a lot of visual attention to detail, and this skill is not well developed for Adam.

Math is cumulative, and there are gaps in the development of Adam's basic math skills as well as in his understanding of math concepts. Adam may have progressed in math to a certain point by using rote strategies without really understanding what he was doing. With a superficial grasp of math, he was vulnerable to serious difficulties in higher levels of math, which demand full conceptual understanding.

At this point, Adam may experience feelings of dread when encountered with math demands. He has worked so hard with repeated failure as the outcome that he may realistically feel helpless and hopeless about his performance in math.

In an analysis of the discrepancy between Adam's ability and his achievement in math, the test results identify Adam as having a Specific Learning Disability in the area of math, within functional deficits in the areas of working memory, visual-spatial reasoning, fluid reasoning, and temporal sequencing.

SOCIAL/EMOTIONAL FUNCTIONING: Formal evaluation in this area was not completed or indicated. Adam has not displayed any serious emotional disturbance that would provide an explanation for his math difficulties. With his early learning difficulties, issues of self-esteem and self-concept were identified and were realistic, given his experience as a very bright youngster who was not learning. It appears that Adam's early learning delays in the areas of reading and writing stemmed from immaturity and were remediated with appropriate intervention and growth. Adam's struggles in math, however, have persisted throughout his school years and have stemmed from the visual-perceptual deficits that were identified in the 1st grade. He has worked with tutors and has sought extra help from teachers, but his efforts have not brought success. One can only imagine how demoralizing this must be for someone who is so gifted in the verbal domain.

SUMMARY

Adam is a 16-year-old teenager who is in the 12th grade at Somewhere High School. Results of the WAIS-III revealed multiple discrepancies among his cognitive abilities that surely impact his learning process. His superior verbal comprehension abilities are significantly more developed than his average working memory skills and his low average perceptual organization abilities. There is also uneven development within the nonverbal domain. Adam's high average processing speed is more developed than his low average perceptual organization ability. Each of these discrepancies is highly significant and occurred quite infrequently in the standardization sample, showing how rare and unusual it is for someone to have such differences in cognitive abilities.

Adam possesses considerable strengths, most notably his superior verbal abilities. His grasp of receptive language and application of expressive language is advanced for his age. He demonstrates superior word knowledge and verbal reasoning skills. These strengths will serve him well in life, as a student and as an adult.

Adam's auditory memory skills are more developed for language than for numerical information and his immediate visual memory is at the average level. Delayed visual memory, however, falls at a very low level. His working memory ability is not as well developed as his superior verbal ability.

Most of Adam's difficulties fall within the nonverbal domain, with relative and normative weaknesses in visual-spatial skills, fluid reasoning abilities, and temporal sequencing skills. These are developed at the average to low average levels, are significantly discrepant from his superior verbal abilities and do impact his learning process.

Academically, Adam is functioning at superior levels in reading and in writing skills, but at the average to low average level in math. His math score does fall below the level predicted by his superior verbal ability. This represents a significant discrepancy and identifies him as having a math disorder, or a Specific Learning Disability, with processing deficits in the areas of working memory, visual-spatial processing, and temporal-sequential processing.

There is no significant concern regarding Adam's social and emotional development, but his continual struggle with math has eroded some of his self-confidence. Repeated failure despite his hard work and effort must have been a demoralizing experience for him.

DSM-IV Multiaxial Diagnosis

Axis I:	315.1	Math Disorder
Axis II:	V 71.09	No Diagnosis
Axis III:	None	
Axis IV:	Math Difficulties	
Axis V:	GAF=75	

RECOMMENDATIONS

Based on the results of this evaluation, the following educational accommodations are recommended for Adam under Section 504 of the 1973 Rehabilitation Act:

1. Extended time for taking tests.
2. Note-taking assistance, as needed.
3. Use of a calculator for math.
4. Use of a computer for written assignments.
5. Preferential seating.

The following analyses provide recommendations for Adam, based upon his learning style and cognitive strengths and weaknesses.

Verbal Ability: Adam possesses considerable ability in this area, with strength in receptive and expressive language skills. Adam expresses interest in writing and his verbal ability will serve him well in that field. One broad recommendation for Adam is to utilize his verbal strengths to compensate for his less developed nonverbal skills. For example, when sequencing visual material, it may be valuable for him to subvocalize or even to say the steps aloud. Using verbal mediation for any difficult tasks may be beneficial.

Attention and Working Memory: Adam demonstrated adequate attention controls throughout the evaluation. He exhibited some impulsivity in responding to verbal items before they were completely read to him, but this did not impair his performance. On visual tasks, it seems that his visual-perceptual difficulties made it harder to maintain attention on some items, such as tracing over the lines in figures, when he said, "The lines look jumbled."

Adam has excellent memory skills for acquired verbal knowledge, like vocabulary, that has been learned, practiced, and stored in long-term memory. His retrieval of this information is fluent, as well. In learning new information, Adam's memory skills are stronger when it is presented in an auditory mode than in a visual mode, and he does better with language-based information than with numerical data. His immediate visual memory is at the average level, but long-term visual memory is less developed. Adam has more difficulty when information is presented spatially and when he is required to remember a specific sequence or procedure, such as in math problems.

Adam's working memory weaknesses can be enhanced by verbalizing what he is doing as he is working on it, by having extended time to compensate for the additional time it takes to hold on mentally to needed information, and by using calculators and word processors as much as possible.

Spatial and Temporal-Sequencing Ordering: These abilities are necessary for processing new information, for short- and long-term memory, and for the output, or production of required work. With weaknesses in both spatial and sequential processing, Adam exhibited difficulties at the three stages of input, storage, and output.

Spatial ordering is necessary for nonverbal problem solving and impacts Adam in his mastery of certain math concepts and in assimilating and applying rules in math. His weakness in visualization prevents him from full comprehension of specific math concepts and from reinforcing them as well. It affects organizational skills and Adam's combined weaknesses in and spatial and sequential ordering make this especially problematic for him. Adam does better with concrete objects to manipulate than when he has to visualize information, so it is important to make new information as practical as possible.

It is important for Adam to develop a systematic approach to problem solving. With sequencing difficulties, he needs to develop a structured set of tactics and strategies that he can follow step-by-step. A format developed by Mel Levine, M.D. is published in his 1994 book, Educational Care, and is enclosed as a separate attachment. This is a systematic approach to problem solving, with a series of questions to ask about solving problems. Working with an educational therapist may be helpful in applying this approach.

Fluid Reasoning: Adam's ability is highly developed in the verbal domain, and less developed in the nonverbal domain. Difficulty in this area is related to his spatial and sequencing difficulties described above, but there was an Interesting difference in Adam's performance on two subtests within the nonverbal domain. Both required conceptual understanding of the rule that governed the problem. On one subtest, Adam needed only to identify the correct answer but on the other, he needed to verbalize the underlying rule needed to solve the problem. Adam's performance was at the low average level for the purely nonverbal task, while he scored at the average level when required to articulate the solution. This again highlights the value of applying his verbal skills to nonverbal problems.

Graphomotor Function: Adam's performance was variable in this area, but it was identified as a weakness when he was in the 1st grade, and is impacting his handwriting at this time. If Adam encounters difficulties in this area, there are many ways to accommodate to ease the struggles that stem from this. The most important intervention is to allow use of a computer as much as possible.

In classroom work, it is important that he is not penalized for his handwriting at this time. His writing needs to be legible, of course, but the integration of his visual and motor skills is not consistently developed for him. It is also important to minimize copying tasks in the classroom. For example, if he is required to copy information off of the board, he may not do it speedily or accurately, which will interfere with his comprehension of the material. If the information is provided to him on a paper, this obstacle is eliminated for him and the focus can be on learning the information. Adam may experience note-taking problems in college; if this occurs, he may benefit from note-taking services.

Math: Adam's difficulties with spatial ordering and sequencing are impacting him in this area, and he may benefit from using his strong language skills to help him understand new math concepts. He should talk through all problems rather than rely on visual representations or models. Any information given through auditory modes will benefit him more than visual representations.

It is important to develop mnemonics for math sequences to support Adam's memory in this area. Adam may need to write down all the steps and calculations needed and then check off each step after completing it. For tutors working with Adam, it is important to provide a correctly solved math problem and then verbally and sequentially describe the steps needed to solve the problem.

As with all new learning, it is important to make the learning relevant and meaningful to Adam. By relating tasks to information that he already knows, he may be able to organize the new information into his existing system of knowledge. Adam is an imaginative and creative teenager who will benefit from creative ways of putting the new information into what is already familiar to him.

If there are any questions regarding these educational recommendations for Adam Practice, please feel free to contact me, with written parental consent, at 310-XXX-XXXX.

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Doctor Ph.D. Date

Licensed Psychologist #OOOOOO

CONFIDENTIAL TEST DATA

WECHSLER ADULT INTELLIGENCE SCALE – THIRD EDITION (WAIS-III)

Scales	Scaled Score	95% Confidence Interval	Percentile	Classification
Scaled score of 100 is average.				
Verbal Scale	119	113 – 123	90	High Average
Performance Scale	92	86 – 99	30	Average
Full Scale	108	104 – 112	70	Average

Indexes	Index Score	95% Confidence Interval	Percentile	Classification
Scaled score of 100 is average.				
Verbal Comprehension	124	117 – 129	95	Superior
Perceptual Organization	86	80 – 94	18	Low Average
Working Memory	94	88 – 101	34	Average
Processing Speed	114	103 – 121	82	High Average

Verbal Tests	Scaled Score	Percentile	Classification
Scaled score of 100 is average.			
Vocabulary	15	95	Superior
Similarities	14	91	High Average
Arithmetic	8	25	Average
Digit Span	11	63	Average
Information	14	91	High Average
Comprehension	17	99	Very Superior
(Letter-Number Sequencing)	8	25	Average

Performance Tests	Scaled Score	Percentile	Classification
Scaled score of 100 is average.			
Picture Completion	6	9	Low Average
Digit Symbol-Coding	15	95	Superior
Block Design	11	63	Average
Matrix Reasoning	6	9	Low Average
Picture Arrangement	7	16	Low Average
(Symbol Search)	10	50	Average
(Object Assembly)		50	Average

WOODCOCK – JOHNSON PSYCHOEDUCATIONAL BATTERY – THIRD EDITION (WJ-III)
TESTS OF COGNITIVE ABILITY

Standard score of 100 is average.

Cognitive Factors	Standard Score	Percentile	Classification
Long-Term Retrieval	107	68	Average
Visual-Auditory Learning	102	56	Average
Retrieval Fluency	120	90	Superior
Visual-Spatial Processing	89	22	Low Average
Spatial Relations	88	21	Low Average
Picture Recognition	93	33	Low Average
Fluid Reasoning	92	29	Average
Concept Formation	98	44	Average
Analysis-Synthesis	87	18	Low Average
Cognitive Fluency	95	38	Average
Retrieval Fluency	120	90	Superior
Decision Speed	106	65	Average
Rapid Picture Naming	87	19	Low Average
Short-Term Memory			
Memory for Words	115	84	High Average
Planning			
Planning	87	18	Low Average

WOODCOCK–JOHNSON PSYCHOEDUCATIONAL BATTERY–THIRD EDITION (WJ-III) TESTS OF ACHIEVEMENT Standard score of 100 is average.

COMPOSITES	Standard Score	Percentile	Classification
Broad Reading	121	92	Superior
Letter-Word Identification	127	96	Superior
Reading Fluency	120	90	Superior
Passage Comprehension	100	51	Average
Broad Mathematics	93	33	Average
Calculation	89	23	Low Average
Math Fluency	95	36	Average
Applied Problems	97	43	Average
Quantitative Concepts	90	24	Low Average
Broad Written Language	124	94	Superior
Spelling	121	92	Superior
Writing Fluency	125	95	Superior
Writing Samples	93	31	Average
Handwriting	71	2	Very Low
Total Achievement	115	84	High Average
Broad Reading	121	92	Superior
Broad Mathematics	93	33	Average
Broad Written Language	124	94	Superior
Academic Skills	118	88	High Average
Letter-Word Identification	127	96	Superior
Calculation	89	23	Low Average
Spelling	121	92	Superior
Academic Fluency	117	88	High Average
Reading Fluency	120	90	Superior
Math Fluency	95	36	Average
Writing Fluency	125	95	Superior
Academic Application	97	42	Average
Passage Comprehension	100	51	Average
Applied Problems	97	43	Average
Writing Samples	93	31	Average

REY COMPLEX FIGURE TEST

T-score of 50 is average.

	T-Score	Percentile	Classification
Immediate Recall	67	96	Superior
Delayed Recall	40	16	Low Average
Recognition	32	4	Impaired

BEERY-BUKTENICA DEVELOPMENTAL TEST OF VISUAL-MOTOR INTEGRATION (VMI)

Standard score of 100 is average.

	Standard Score	Scaled Score	Age Equivalent	Percentile	Classification
Visual-Motor	88	8	14-0	21	Low Average

HOOPER VISUAL ORGANIZATION TEST (VOT)

T-Score of 50 s average.

T-score = 58 (intact)