

Comprehensive Reading Assessment Grades K-1

User Information	
Name:	Doe, John
Date of Birth:	Jan 01, 1995
Current Grade in School:	3rd
Grade in School at Evaluation:	1st
Evaluation Date:	May 17, 2006

Background

Young children who will subsequently develop a reading problem often display a particular pattern of behavioral and cognitive characteristics. The identification of these characteristics should involve at least two things. First, it should involve an examination of childhood history that seeks to identify events or characteristics that have been shown to be related to the subsequent development of learning problems. Second, it should involve the administration of cognitive and psychological tests that provide indicators of whether a learning difficulty is likely to occur. Neither source of evidence by itself is conclusive. However, in combination the developmental history and the testing results provide a basis for making a prediction about whether a reading difficulty is likely to occur. This report contains information about both of these sources of evidence.

Reading Difficulties

Reading difficulties have a number of causes. Some children have difficulty learning to read because they have not had early experiences that lead to an understanding of what reading is about (a way of deriving meaning from text). When they are young, children who lack important early experiences often do not know the names of letters, and they do not have a sense that letters make sounds that map onto the spoken language they have already acquired. These children are often identified in kindergarten or first grade by school personnel and can catch up with their peers in reading skill with appropriate instruction.

Other children have difficulties that may be brain based and that appear to run in families. This means that their difficulties are probably inherited and it means that their reading problems are much more difficult to eliminate with regular educational interventions. Children that have this second kind of difficulty are often diagnosed as having a **specific reading disability** or **dyslexia**.

The report to follow provides an evaluation of John's developmental history and the results of a number of cognitive assessments that have been shown to be predictive of

whether a child develops a problem learning to read. The report also describes the reasons why or why not John might develop a reading problem.

Problems in Learning to Read

One of the primary causes of difficulty in learning to read is early difficulty in processing the component sounds of oral language. For example, a young student who has difficulty in processing the component sounds of language would have difficulty telling if two words rhymed or started with the same sound. The technical term for this problem is difficulty in processing phonological information. A phoneme is the smallest segment of sound making up a word so phonological information consists of the individual speech sounds that make up words. Difficulty in processing phonological information creates problems in learning to read because a student with phonological processing problems has difficulties attaching speech sounds to letters and letter combinations. If a beginning reader cannot attach sounds to letters, they cannot use sounding out procedures to identify words, and this greatly slows down the acquisition of reading skills. For example, a beginning reader who has difficulty in attaching speech sounds to letters and letter combinations would have difficulty learning to attach the sound "cuh" to the letter "c" in the word "cat" and would have even greater difficulty in sounding out (blending) the entire word and then repeating the sounds rapidly so that the word could be identified.

There are a number of other early indicators of reading problems to come. Children who develop reading problems sometimes show delays in learning to speak. These delays are often difficult to recognize (particularly for first time parents) because there is considerable normal variation in speech acquisition among children. Moreover, many parents are unaware of important benchmarks in language acquisition so they do not recognize that their child is slow in acquiring speech.

Another characteristic common to many children who develop reading difficulties is problems correctly pronouncing words. The technical term for this difficulty is "articulation difficulties". Children with reading difficulties often have a history of articulation difficulties and these difficulties often result in the child receiving speech therapy, in many cases before the child starts formal schooling in kindergarten or first grade. The assessment process that John has completed has involved the collection of information about his developmental history with a particular focus on language acquisition, articulation difficulties, and family history of learning difficulties. The report then uses this information, along with cognitive testing information, to identify potential difficulties in learning to read.

Cognitive Assessment of Pre-Reading Skills

The assessment procedures contributing to this report involve measuring early skills that are predictive of the development of skilled reading. The assessment procedures were developed and validated at the Laboratory for the Assessment and Training of Academic Skills (LATAS) at the University of Massachusetts, Amherst.

Assessment of Skills Related to Successful Reading Development

The assessment software that John used for this reading evaluation presents students with a series of tasks that are predictive of the development of skilled reading performance. Some of these tasks measure the ability to extract component sounds from words that are listened to, some of the tasks measure early reading skills, and one of the tasks provides a baseline indication of how fast and accurately a student can respond to simple stimuli presented on a computer screen.

Simple response time: This task involves presenting *** or +++ on the computer screen and having the student say "star" or "plus" into a microphone. The computer records the time between the appearance of the stimulus on the screen and the student's response to that stimulus. The person administering the test then records whether the stimulus was named correctly. Simple response time assessment provides an index of general cognitive processing efficiency, and is useful in identifying other problems such as vision difficulties.

Most students who will develop a reading problem perform at about the same level on this task as do normal students. The task is useful, however, for picking up students who may have a visual difficulty or who may have a more global learning problem like mental retardation.

Letter recognition: This is an assessment of the speed and accuracy of letter recognition. It involves presenting an upper or lower case letter on the computer screen and having the student say the name of the letter into the microphone. For example, the student might see the letter "B" on the computer screen and then respond with the name of the letter into the microphone.

Students who will develop reading problems often are delayed in developing rapid and accurate identification of letters. This means that poor performance on this task (relative to age peers) could be indicative of a reading problem to come.

Oral detection of rhyme, initial phoneme, and ending phoneme: Earlier in this report it was mentioned that students who develop reading difficulties often have relatively poor phonological awareness skills. Phonological awareness can be measured by determining if the child can decompose spoken words into constituent sounds. There are a variety of phonological awareness tasks but the ones used in this assessment battery involve examining the ability to hear when two words rhyme, to hear when two words start with the same sound, and to hear when two words end with the same sound.

The three phonological awareness tasks used in the CAAS assessment typically develop at different times. The first skill to develop in most children is the detection of rhyme, followed by the detection of initial phoneme (a phoneme is the smallest constituent sound of a word and initial phoneme is the beginning sound of a word), followed by ending phoneme (the ending sound of a word).

Children who will subsequently develop reading difficulties often have difficulty with phonological awareness tasks. Thus, poor phonological awareness performance is often a good predictor of reading problems to come.

Interpretation of Background information

Early Childhood Factors that are Related to Specific Reading Difficulties:

Individuals who develop reading difficulties often have a childhood history that has a number of characteristics that are predictive of subsequent problems. No single characteristic predicts the subsequent development of a reading difficulty with certainty, but the presence of several early childhood factors that are known to be related to reading problems provide an indication that a problem might develop.

Information about John's developmental history was collected via a questionnaire. This questionnaire asked about a number of developmental characteristics that have been shown to be related to the subsequent development of reading disabilities. The first of these is whether or not there appeared to be delays in language acquisition. Individuals with reading disabilities frequently had language learning difficulties as young children. John did exhibit delays in learning to speak as a child.

The next question that was asked was whether or not John exhibited persistent articulation difficulties as a young child. Articulation difficulties are difficulties in correctly pronouncing words. Typically, children with articulation difficulties not only have difficulties pronouncing words correctly, they also have difficulty hearing the fact that they are mispronouncing words. Again, persistent articulation difficulties have been shown to be related to the subsequent development of reading disabilities. John did have persistent articulation difficulties as a young child.

The question about articulation difficulties was followed by a question about whether or not John received speech therapy as a young child. Persistent articulation difficulties are sometimes severe enough to warrant the attention of a speech therapist. Articulation difficulties severe enough to warrant speech therapy services are especially predictive of the development of reading difficulties. John did receive speech therapy services as a young child.

The next question asked whether or not John had ever tried to learn **pig latin** as a child, and if so, whether or not he was successful. Learning pig latin requires a considerable amount of phonological processing skill and individuals who develop reading difficulties typically have a great deal of difficulty learning pig latin. The reason is that pig latin involves taking the beginning sound of a word and moving it to the end of the word and then attaching the sound "ay" to the word. So, for example, the word "can" becomes "ancay". Individuals who develop dyslexia have trouble manipulating the phonology (sounds) of words and thus have difficulty learning pig latin. It was indicated that John did not attempt to learn pig latin.

The next question asked whether or not John had experienced excessive ear infections as a young child. Children who experience delays in speech acquisition and have articulation disorders often do have phonological processing problems that are subsequently associated with reading difficulties. However, sometimes the origin of these difficulties is associated with frequent and severe ear infections. Severe and/or excessive ear infections may explain why speech delays or articulation difficulties develop. The response to the question about ear infections indicated that John did not have excessive ear infections as a child.

Family Background Factors that are Related to Specific Reading Difficulties: The next set of questions asked about John's family background. Some reading difficulties appear to have a genetic component and children with those reading difficulties often have close relatives who also have reading difficulties. The first question was whether or not John had siblings. It was indicated that John does not have siblings.

The next questions asked whether any close relative was known or suspected as having a learning disability. It was indicated that there are no such other relatives with learning difficulties.

Analysis of John's Childhood, and Family History

John's childhood history did have the characteristics that are often found in students who develop reading problems. John did have speech acquisition difficulties. John did exhibit articulation difficulties that were noticeable enough to warrant speech therapy services. These early childhood characteristics are often seen in children who develop reading problems as they progress in school.

John does not have any immediate relatives that displayed learning difficulties. This fact weighs against the likelihood that he will develop a difficulty in learning to read.

In summary, John's childhood and family history is mixed with respect to being consistent with the history of individuals who often develop a reading problem. The next section of the report will examine the results of the cognitive testing.

Cognitive Testing Results

Students who do develop reading difficulties generally have a different profile pattern on cognitive tests than students who do not develop a reading difficulty. This means that the profile of performance a student displays provides some indication of whether a reading problem is likely to develop.

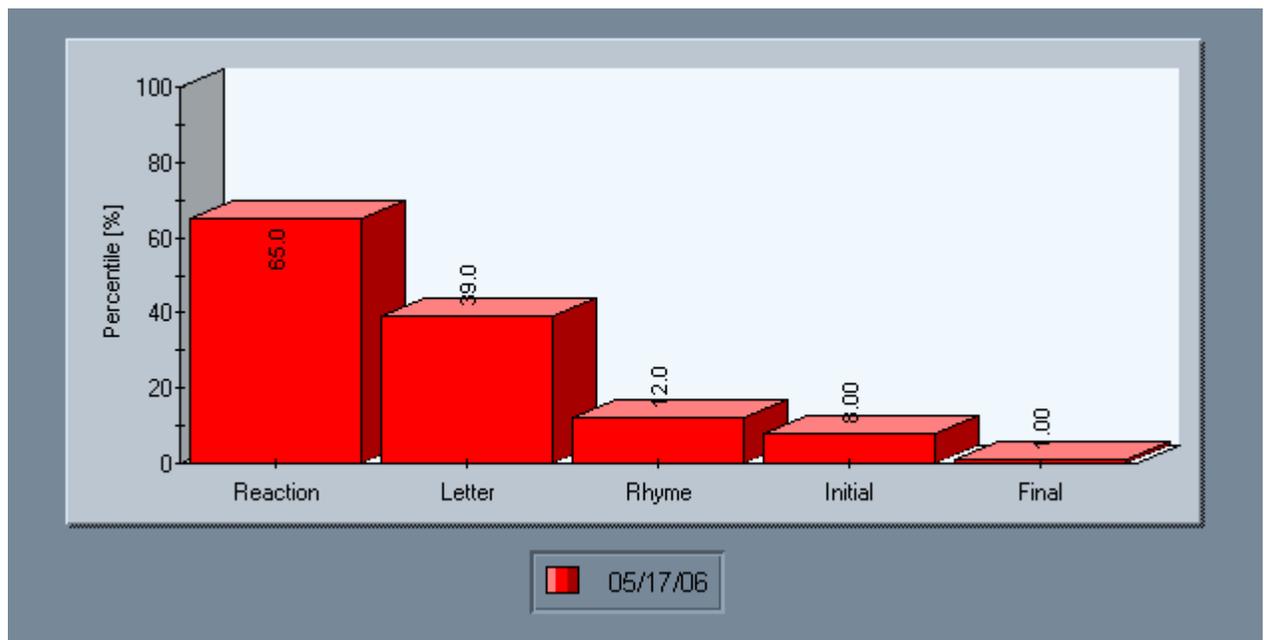
There are also several reasons why a student might develop a reading problem. For instance, some children develop reading problems because they do not have early pre-reading experiences that will enable them to subsequently develop good reading skills. Other students have language processing problems that will inhibit their reading

development. There are also children who will have general learning problems that will have a negative impact on their reading development.

The profile of cognitive performance in the table and graphs below provides an indication of whether a problem in learning to read is likely to occur. However, the information in the profiles is not conclusive and some children who look like they may develop a problem never do, and other children who look fine on the cognitive tests do have a reading problem as they proceed through school. Nonetheless, a profile that suggests a problem may occur should be attended to. When it comes to developing skilled reading performance, it is far better to attend to a problem that does not develop than it is to fail to attend to a problem that does develop.

The data listed in Table & Graph below show John's performance on the cognitive tasks used in this evaluation.

	Task	Speed (sec)	Accuracy (%)	Percentile (%)
1	Reaction Time	1.01	100.0	65.0
2	Letter Naming	1.05	100.0	39.0
3	Rhyme	3.52	70.0	12.0
4	Initial Phoneme	3.16	60.0	8.0
5	Final Phoneme	4.10	55.0	1.0



A percentile score is a measure of how results compare to the results for others the same age on the same task. The percentile score ranges in value from 1 [lowest] to 99 [highest]. For example a percentile score of 89 means that the score is as good as or better than 89% of children the same age. A child who is exactly average will be in the 50th percentile.

Interpretation of Cognitive Performance. Children who have a substantial possibility of developing a reading problem will often display one of two patterns of performance on

the cognitive tests. The first pattern is that the child scores in the average to above average range on the simple reaction task, but has difficulty with the letter naming task and the phonological awareness tasks. Of these tasks, the phonological awareness tasks are the most important. Some students who develop reading problems do have good identification of letter names, but they rarely have good phonological awareness skills. The reason for this pattern of performance is related to the underlying causes of a specific reading disability. Specific reading disabilities are caused by difficulties in attaching speech sounds to letters and letter combinations. The inability to attach sounds to letters makes it difficult for a reader to identify words by sounding them out, and this in turn causes delays in learning to read. Since phonological awareness tasks are designed to evaluate a student's ability to identify the constituent sounds of speech, they provide a good predictor of the possibility of reading difficulties to come.

The second pattern of performance that is related to difficulties in learning to read is well below average performance on all of the cognitive tasks. This pattern of performance is possibly indicative of the development of general problems in learning academic skills.

John's performance on the simple reaction task is at the 65th percentile, an average score. His performance on the letter naming task is at the 39th percentile, an below average score. John's performance on the phonological awareness tasks is also generally consistent with the typical pattern for a student that is in danger of developing a problem learning to read as he performed generally below average on these tasks. John performed at the 12nd percentile (below average) on the rhyme task, at the 8th percentile (below average) on the initial phoneme task, and at the 1st percentile (below average) on the final phoneme task. This pattern of performance is consistent with the pattern of performance seen in many students who subsequently develop a difficulty in learning to read.

Overall Interpretation

John's overall pattern of performance on the questionnaire and the CAAS assessments is similar to the pattern commonly seen in individuals who develop difficulties in learning to read. Individuals who do develop difficulties in learning to read often have speech acquisition difficulties at an early age that can delay learning to speak and that may create difficulties in learning to pronounce words (articulation difficulties). John displayed both of these characteristics.

John's questionnaire indicated that there were no learning problems in his immediate family. Individuals that have difficulty learning to read often have close relatives who have learning problems. However, other aspects of his evaluation are consistent with the patterns of performance commonly seen in individuals who do develop reading difficulties.

John's pattern of performance on the CAAS cognitive tests also closely resembles the pattern of early performance seen in individuals who have difficulties with reading as they progress through school. Individuals who develop a difficulty that is specific to

reading will often have generally below average scores on all of the cognitive tasks including the phonological tasks. John's profile of test performance generally fits this pattern. He scored in the 65th percentile on the Reaction Time task. He scored in the 39th percentile on the Letter Naming task. He scored in the 12th percentile on the Rhyme task. He scored in the 8th percentile on the Initial Phoneme task. He scored in the 1st percentile on the Final Phoneme task.

There are aspects of John's profile of test performance that are not consistent with the common pattern. However, his overall pattern of performance on the entire evaluation is similar to the profile seen for an individual who may develop a difficulty learning to read.

Intervention Plan

John appears to have some weaknesses in skills that are often linked to subsequent difficulties in learning to read. Specifically, John's is below average for his age group in identifying letters and he is below average in being able to identify the constituent sounds of spoken words. Our experience has been that performances in these areas can improve strikingly if the student engages in a carefully designed intervention program.

The origin of the problem for most students who develop difficulties in learning to read is difficulty in attaching speech sounds to letters and letter sequences. This difficulty delays the process of attaining the "alphabetic principle", which is the realization that the constituent sounds of speech (the individual sounds that make up words) map onto letters of the alphabet. This difficulty in mapping speech sounds to letters makes reading a very slow process. It makes it very difficult for a child to use word recognition strategies like sounding out letters and then blending the letter sounds to make a word as a procedure for identifying unfamiliar words.

Given this description, intervention plans for students who may potentially develop a reading problem should follow a sequence. First, it should be the case that students have accurate and efficient (they should be fast) letter recognition ability. If the child does not have virtually automatic letter recognition ability, the child should engage in a practice activity that develops that ability. Second, the child should engage in interventions that are designed to build an awareness that spoken words can be decomposed into sounds (phonemes) and those sounds then map onto sounds that letters and combinations of letters make. There are many interventions that are designed to build these skills, including ones that are available for purchase via the internet.

1. It should be the case that students have accurate and efficient (they should be fast) letter recognition ability. The letter skill building software available for purchase at the Reading Success Lab web site can be used to develop accurate and efficient letter recognition ability.

2. The child should engage in interventions that are designed to build an awareness that spoken words can be decomposed into sounds (phonemes) and those sounds then map onto sounds that letters and combinations of letters make. One popular instructional

sequence, as an example, focuses on developing these skills through a sequenced set of instruction that includes:

- Developing good listening skills.
- Developing a sense of rhyme to the point where a student can both differentiate whether two words rhyme or do not rhyme and can produce words himself or herself that rhyme.
- Develops syllable awareness to the point where syllables in a word can be counted, separated from the word as a whole, and manipulated through activities such as deletion or addition of syllables.
- Develop letter sound skills so that when shown a letter or sequence of two letters the child can produce the sound that the letters make.
- Develop the ability to manipulate the phonemes in a word as, for example, in telling you what the word "cat" would sound like if you removed the sound that the "c" makes.

3. Teach the child systematic procedures for sounding out letter sequences and then blending those sequences together so that the child can identify the word by listening how they pronounce it when sounding it out.

4. Practicing word recognition skills to the point where many words the child reads become automatically recognized and sounding out as a word recognition strategy for these words is no longer needed.

5. Carefully monitor progress in this instructional sequence and if progress is not consistent, switch to another strategy that involves teaching of whole word recognition. The word skill builders available at the Reading Success Lab web site are good ways to develop fast and automatic whole word recognition.

NEXT STEPS

Next Steps For Educators: If you are an educator testing a reader using the Cognitive Aptitude Assessment System test, the section of this report labeled Overall Interpretation summarizes the test results. If this summary indicates a pattern commonly seen in individuals who may develop a reading problem, then an appropriate intervention plan is needed.

If the report indicates an inconsistent profile or the possibility that a reading problem might develop, the following steps are recommended:

1. Conduct further assessments, if necessary, to confirm these test results and further pinpoint the specific problem the student is having.

2. Share with the reader and the reader's family the results of the assessments.
3. Develop an intervention plan for the reader consistent with the recommendations in the **Intervention Plan** section of this report and with any subsequent assessment that is conducted.

Additional information on this assessment test, dyslexia, case studies, periodic reassessment, and intervention strategies is available online at:

www.ReadingSuccessLab.com

or click on the links following the Next Steps For Parents section below.

Next Steps For Parents: As described in this report, the Cognitive Aptitude Assessment System test identifies a variety of cognitive difficulties and reading difficulties. Your child's school is also likely to have assessment testing available.

1. Use this assessment report when discussing your child's situation with the school. The results indicated on this assessment report may make it easier to obtain additional testing and subsequent resources to assist your child. If your child's school will not schedule your child for additional testing or services, consider obtaining another full diagnostic assessment from a local private diagnostician recommended by the school. This additional testing would then give you two independent assessments on your child that you can share with the school.
2. Consider direct involvement in assisting your child if the assessment results indicate your child is in danger of developing a reading difficulty. The school may recommend skill-building exercises you can do with your child at home. In addition, Skill Builder modules are available for working with your child at home in addition to the assistance your child is getting at school. Additional information is available on the Reading Success Lab website.
3. Consider periodic reassessment for your child to track progress that is being made with the intervention plan. Reassessment testing is likely available at your child's school.

If you have further questions about this assessment test, the reading process, intervention plans to assist your child, and working with your child's school, visit the website:

www.ReadingSuccessLab.com