Academic Skills and Learning Outcomes

Arrowsmith PROGRAM®

Strengthening Learning Capacities®

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How the Arrowsmith Program Cognitive Exercises Address Learning Difficulties

The Arrowsmith Program is based on the application of neuroscience research and the premise that it is possible to address a range of specific learning difficulties by identifying and strengthening cognitive capacities.

The Arrowsmith Program, through careful assessment, identifies areas of learning strength and weakness to create an individual learning profile for each student and then designs a program of individualized exercises to target the precise areas of weakness.

The goal of the Arrowsmith Program's intensive and graduated cognitive exercises is to strengthen a range of weak cognitive capacities that are hypothesized to underlie a number of specific learning difficulties.

The *Arrowsmith Program Chart of Learning Dysfunctions and Learning Outcomes*, on the website and in this document, provides a description of the relationship between the function of the cognitive areas for which the Arrowsmith Program has developed specific targeted programs, the learning difficulties a student may have if there is a problem in this function, and the learning outcomes achieved related to the cognitive function upon completion of the Arrowsmith Program.

There have been a number of research studies, discussed later in this document, that have demonstrated a range of improvements in Arrowsmith Program students. Using different research designs, different measures, both educational and cognitive, and studying students in different schools implementing the Arrowsmith Program, the studies show improved academic performance and learning abilities. For updates on the research being conducted on the Arrowsmith Program, please visit the *Research page* on the website.

The goal of the Arrowsmith Program is to strengthen the learner's ability to learn through a range of specific programs so that learning can proceed efficiently and effectively, significantly reducing or removing the need for compensations or modifications. The goal is for students to become effective, confident and self-directed learners for life and to enable them to achieve their goals of academic and career success.

Chart of Learning Dysfunctions and Learning Outcomes

Cognitive Area	Description of Cognitive Function	Common Features if there is a Problem in this Area	Learning Outcomes
Motor Symbol Sequencing	Ability to learn and produce a written sequence of symbols	Messy handwriting, miscopying, irregular spelling, speech rambling, careless written errors in mathematics, poor written performance	Improve handwriting; reduce careless errors in written work; develop fine motor skills, sequential motor memory and motor planning in writing, capacity for hand-eye coordination
Symbol Relations	Ability to understand the relationships among two or more ideas or concepts	Difficulty with reading comprehension, trouble with mathematical reasoning, trouble with logical reasoning, difficulty reading an analog clock, problem understanding cause and effect, reversals of 'b'-'d'; 'p'-'q'(younger students and in more severe cases)	Develop ability to read a clock; improve capacity necessary for understanding relationships between concepts necessary for logical and mathematical reasoning and reading comprehension that affect all aspects of curriculum and life
Memory for Information/ Instructions	Ability to remember chunks of auditory information	Trouble remembering oral instructions, difficulty following lectures or extended conversations, problem acquiring information through listening	Develop auditory memory and the capacity to remember and follow oral instructions and retain information for learning; improve the capacity to remember chunks of information
Predicative Speech	Ability to see how words and numbers interconnect sequentially into fluent sentences and procedures	Problem putting information into one's own words, speaking in incomplete sentences, difficulty using internal speech to work out consequences, trouble following long sentences, breakdown of steps in mathematical procedures	Improve the capacity to understand a sentence of increasing difficulty and length; improve the ability to put information into own words; develop the capacity for the sense of how symbols (words and numbers) interconnect sequentially; improve the ability to follow procedures in mathematics; develop the ability to write and speak in complete sentences
Broca's Speech Pronunciation	Ability to learn to pronounce syllables and then integrate them into the stable and consistent pronunciation of a word	Mispronouncing words, avoiding using words because of uncertainty of pronunciation, limited ability to learn and use phonics, difficulty learning foreign languages, difficulty thinking and talking at the same time, flat and monotone speech with lack of rhythm and intonation	Develop/improve the capacity for sound-symbol correspondence; develop the phonemic memory necessary for the phonetic aspect of reading; develop the ability to pronounce multisyllabic words correctly; develop the ability to read with greater oral expression

Cognitive Area	Description of Cognitive Function	Common Features if there is a Problem in this Area	Learning Outcomes
Symbolic Thinking	Ability to develop and maintain plans and strategies through the use of language	Problem being self-directed and self-organized in learning, limited mental initiative, difficulty keeping attention relevantly oriented to the demands of a task necessary for completion, difficulty thinking, planning, problem solving, trouble seeing the main point	Develop/improve the ability to grasp the main point of written or orally presented material; develop the ability to state the main idea of a selection using one's own words; develop the ability to maintain plans and strategies for problem solving; develop the capacity to express ideas more clearly in writing; develop the capacity to self-direct, to develop initiative and to remain focused on tasks to completion
Symbol Recognition	Ability to visually recognize and remember a word or symbol	Poor word recognition, slow reading, difficulty with spelling, trouble remembering symbol patterns such as mathematical or chemical equations	Develop/improve the capacity to visually recognize and remember words or symbols necessary for reading, spelling and mathematics
Lexical Memory	Ability to remember several unrelated words	Problems with associative memory, trouble following auditory information, trouble learning names of things such as animals, places, people, colors, days of the week	Improve vocabulary development and auditory memory for words
Artifactual Thinking	Ability to register and interpret non-verbal information and plan and problem solve non-verbally	Problems interpreting non-verbal information such as body language, facial expression and voice tone, weak social skills, difficulty perceiving and interpreting one's own emotions, difficulty thinking, planning, problem solving non-verbally	Develop the capacity for non-verbal thinking and problem-solving; develop the ability to interpret body language, facial expression and voice tone and to respond appropriately in interpersonal interactions; develop ability to interpret and modulate his/her own emotions
Quantification Sense	Ability to carry out internal sequential mental operations, such as mental mathematics	Finger counting, trouble retaining numbers in one's head, difficulty making change, problem learning math facts, poor sense of time management, difficulty with time signature in music	Develop the capacity for number sense; develop the capacity for carrying out internal sequential, mental computation of addition and subtraction; develop the ability to use time wisely through scheduling and organization; develop an understanding of quantification related to money, time, space

Studies Demonstrating Arrowsmith Program Outcomes and Acquisition of Academic Skills

There have been a number of studies that have demonstrated improvements in students' academic skills upon completion of the Arrowsmith Program. It is hypothesized that increased cognitive capacities have enabled students to acquire these academic skills.

Overviews of some of the studies and highlights of the key findings are outlined below.

A Report on the Effectiveness of the Arrowsmith Program in the Toronto Catholic District School Board, January 2007

This report, prepared from data gathered by teachers in the Toronto Catholic District School Board (TCDSB) on students enrolled in the Arrowsmith Program between 1997-2007 in the TCDSB, demonstrated that the students' rate of learning on specific academic tasks (word recognition, arithmetic, reading comprehension and reading speed) increased by 1.5 to 3 times the rate they were learning at prior to the Arrowsmith Program.

The study noted:

> "Specific changes were also noted in cognitive functioning in the areas of: visual memory; auditory memory; logical reasoning; non-verbal problem solving; concentration and focus; number sense; thinking and problem solving; conceptual understanding; and comprehension. The changes in the student's cognitive capacities led to the increased rate of learning in academic areas."

Report on an Outcome Evaluation of the Arrowsmith Program for Treating Learning Disabled Students, prepared by Dr. William Lancee, November 2005

This study followed students at Arrowsmith School over three years and concluded:

> "The study, combined with previous research of the program, strongly supports the effectiveness of the Arrowsmith Program for a wide spectrum of learning problems. These results provide hope for parents and teachers, and open up opportunities for children struggling with learning difficulties."

Report on the Toronto Catholic District School Board (TCDSB) Study of the Arrowsmith Program for Learning Disabilities, prepared by Dr. William Lancee, January 22, 2003

A research study comparing students enrolled in the Arrowsmith Program (AP) with students in a traditional special education program that was conducted over the 2001/2002 school year in the Toronto Catholic District School Board.

The study concludes:

> "Despite some study design limitations and small sample size, the study results strongly support the Arrowsmith Program as instrumental in changing the developmental course of the majority of children with learning disabilities (LD) in this sample. In only 12 months, almost one third of the AP students were on a course that brought them closer to their peers. Another 27% improved their performance at the same rate as expected from their non-LD peers, that is, they stayed at the same distance but did not fall further behind. All other AP students (43%) improved at least somewhat on the various achievement tests. None of the 10 students in the comparison group progressed substantially beyond their entry status."

Changes Observed on Cognitive Measures of Arrowsmith Program Students at Eaton Arrowsmith School (EAS) 2005-2008 **and Eaton Learning Centre (ELC)** 1999-2004 prepared by Howard Eaton, Ed.M.

Documentation of significant score changes on a number of standardized psycho-educational assessments of students in the Arrowsmith Program at Arrowsmith School Toronto administered by the Eaton Learning Centre in Vancouver, and with students at Eaton Arrowsmith School in Vancouver.

Students demonstrated significant gains after time spent in the Arrowsmith Program on measures that are directly related to learning skills, cognitive functioning and academic outcomes such as: cognitive efficiency, working memory, visual motor integration, visual perceptual functioning, auditory processing for speech sounds, semantic knowledge, and achievement skills.

Treatment Outcome for a Motor Symbol Sequencing Dysfunction Barbara A. Young, M.A. & Donald F. Burrill, Ph.D. Poster Session - 2000 APA Annual Convention, Washington D.C., August 7, 2000

This study investigated the relationship between a treatment program designed to train automatic written motor symbol sequences for a group of 12 learning disabled individuals having difficulty with the writing process and outcome measures on a test developed to measure the rate of learning a repeated sequence of symbols as an automatic motor pattern and standardized tests of writing and copying.

Significant positive changes were found from pre- to post-treatment testing on all measures.

The study concludes:

> "…for individuals identified as having certain specific difficulties with the writing process, the treatment program described in this paper improved subjects' performance on tests of learning a symbol sequence, clerical speed and accuracy, handwriting, and copying."

Summaries of the above noted studies are detailed below, and complete copies of the studies can be found on our website at: **http://www.arrowsmithschool.org/arrowsmithprogram-background/research.html**

Summary of Studies Showing Transfer to Academic Skills

<table>
<tr><th>Study Name</th><th>Description of Study</th><th>Summary of Outcomes</th></tr>
<tr><td>Report on the Arrowsmith Program in the Toronto Catholic District School Board (TCDSB)

January 25, 2007</td><td>A follow-up study tracking progress of students in the Arrowsmith Program in the TCDSB on standardized achievement measures and the amount of resource support needed pre and post Arrowsmith Program.

Reports from parents, teachers and students of specific observable cognitive and academic gains.

Reports from teachers, students and parents re: success of TCDSB Arrowsmith students in high school and post secondary programs.</td><td>A. Increase in Academic Skills
Increase in rate of acquisition of academic skills measured by average grade gain per school year, after 1 year of Arrowsmith Program (AP)

<table>
<tr><th>Academic Measure</th><th>Pre-Arrowsmith</th><th>After 1 Year in Arrowsmith</th></tr>
<tr><td>Word Recognition (WRAT)</td><td>0.6 grade per year</td><td>1.9 grades per year</td></tr>
<tr><td>Arithmetic (WRAT)</td><td>0.6 grade per year</td><td>1.5 grades per year</td></tr>
<tr><td>Reading Comprehension (Monroe-Sherman)</td><td>0.6 grade per year</td><td>1.8 grades per year</td></tr>
<tr><td>Reading Speed (Monroe-Sherman)</td><td>0.6 grade per year</td><td>2.0 grades per year</td></tr>
</table>
B. Reduction in Resource Support
Significant reduction in amount of resource support required (measured by % of students requiring support)

<table>
<tr><th>Amount of Resource Support Required</th><th>Pre - Arrowsmith</th><th>Post - Arrowsmith</th></tr>
<tr><td>No Support Periods</td><td>0 %</td><td>69 %</td></tr>
<tr><td>1 - 2 Periods</td><td>55 %</td><td>26 %*</td></tr>
<tr><td>4 -8 Periods</td><td>45 %</td><td>5 %</td></tr>
</table>
*Post-Arrowsmith, no student required 2 periods of resource support. This category on follow-up reflects the range from 1 period of resource support to occasional use of a resource classroom for completing homework or writing exams.

C. Parent, Student, Teacher Ratings
Significant changes in students' ability to: focus; remember factual information; do homework independently; understand instructions and ideas; listen; organize themselves; acquire skills such as reading, writing, spelling, telling time, numeracy; reason logically; do mental arithmetic; problem solve non-verbally; think and problem solve in language; remember visual symbol patterns required for reading and spelling; achieve higher grade scores in their academic classes. Confidence levels and self-esteem improved and frustration levels were reduced.</td></tr>
</table>

This report can be downloaded as a pdf document at:
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<table>
<tr><th>Study Name</th><th>Description of Study</th><th>Summary of Outcomes</th></tr>
<tr><td>Report on an Outcome Evaluation of the Arrowsmith Program for Treating Learning Disabled Students

November 20, 2005</td><td>A three year outcome study of 79 children with learning disabilities conducted at Arrowsmith School funded by the Canadian Donner Foundation.

A number of standardized measures were used such as achievement tests and tests of mental ability as well as measures of learning capacity and changes in rates of learning.

Study undertaken by Dr. William J. Lancee, Head of Research in the Department of Psychiatry at Mount Sinai Hospital and Associate Professor, Department of Psychiatry, University of Toronto.</td><td>A. Increase in Academic Achievement in Areas of Weak Performance
Study found that on average Arrowsmith students' performance on a composite of 6 academic achievement test scores moved from below average to average range

<table><tr><td></td><td colspan="3">Composite Academic Performance Score (Percentile)</td></tr><tr><td>Severity of LD</td><td>Year 1 Gain</td><td>End of Year 2</td><td>End of Year 3</td></tr><tr><td>Mild</td><td>14 - 41 %tile</td><td>47 %tile</td><td>48 %tile</td></tr><tr><td>Moderate</td><td>11 - 23 %tile</td><td>31 %tile</td><td>35 %tile</td></tr><tr><td>Severe</td><td>6 - 15 %tile</td><td>21 %tile</td><td>27 %tile</td></tr></table>
B. Correlation between Increased Academic Achievement and Improvements in AP Cognitive Functions

Improvement in specific AP cognitive function was correlated to change in achievement tests related to that AP cognitive function (for example improvement in symbol recognition was related to improvement on the following achievement tests – crossing out letters, vocabulary, visual letter memory, word recognition, spelling, word attack – and all of these changes would be expected given improved visual symbol memory).</td></tr>
</table>

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Study Name	Description of Study	Summary of Outcomes
Report on the Toronto Catholic District School Board (TCDSB) Study of the Arrowsmith Program for Learning Disabilities January 22, 2003	A one-year study comparing outcome measures (on 10 standardized academic achievement tests and 2 standardized tests of intelligence) of 30 grade 2 to grade 7 students enrolled in the Arrowsmith Program from 4 schools in the TCDSB to 10 students in a traditional special education classroom for students with learning disabilities. Study by Dr. William J. Lancee	Study results strongly support the Arrowsmith Program as instrumental in changing the developmental course of the majority of children with learning disabilities (LD) in this sample. After 12 months of Arrowsmith Program (AP) cognitive exercises 100% of the AP students showed improved academic performance. • 30% of the AP students were on a course of accelerated academic achievement that brought them closer to their non-LD peers. • Another 27% improved their performance at the same rate as their non-LD peers. • All other AP students (43%) showed some improvement on the achievement tests. • None of the 10 students in the traditional special education classroom comparison group progressed substantially beyond their entry status. • Improvements were reported in more than 80% of AP students in the following areas: reading comprehension; ability to focus on task; understanding ideas; legibility of written work; confidence; self-esteem; ability to self-advocate, and between 70% and 80% of students in: telling time; remembering factual information; listening skills; organizational skills; and understanding and following instructions. • For AP students, improved comprehension as observed by teachers in class correlated highly with the relative progress grade equivalent (GE) score which was measured by the change in the GE score over the year averaged over 5 academic achievement tests (Pearson $r = 0.49$; $p<0.01$).

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Summary of Studies Showing Improvement on Cognitive Measures

<table>
<tr><th>Study Name</th><th>Description of Study</th><th>Summary of Outcomes</th></tr>
<tr>
<td>Eaton Arrowsmith School (EAS)

Changes Observed on Cognitive Scores of Arrowsmith Program Students at Eaton Arrowsmith School

2005-2008</td>
<td>Changes on a number of standardized Psycho-Educational Assessment tests of students in the Arrowsmith Program at Eaton Arrowsmith School

These results are detailed in the book Brain School – Stories of Children with Learning Disabilities and Attention Disorders Who Changed Their Lives By Improving Their Cognitive Functioning by Howard Eaton, Ed.M.

Note:
Source of data in order of Chart: Table 24, page 192; Table 5, page 80; and Table 15, page130 in Brain School by Howard Eaton, Ed.M.</td>
<td>
12 year old Boy– 2 years in Arrowsmith Program
<table>
<tr><th>Performance Test</th><th>Pre-Arrowsmith</th><th>After 2 Years in Arrowsmith</th></tr>
<tr><td>Coding Subtest WISC–III (before) WISC-IV (after)</td><td>5 %tile</td><td>75 %tile</td></tr>
<tr><td>Working Memory WISC–III (before) WISC-IV (after)</td><td>12 %tile</td><td>50 %tile</td></tr>
<tr><td>Verbal Ability WJ-III</td><td>67 %tile</td><td>94 %tile</td></tr>
<tr><td>Visual-Auditory Learning WJ-III</td><td>20 %tile</td><td>47 %tile</td></tr>
<tr><td>Motor Coordination BEERY</td><td>7 %tile</td><td>53 %tile</td></tr>
<tr><td>Non-Verbal Intelligence TONI-3</td><td>50 %tile</td><td>88 %tile</td></tr>
</table>
12 year old Boy - 2.5 years in Arrowsmith Program
<table>
<tr><th>Performance Test</th><th>Pre-Arrowsmith</th><th>After 2.5 Years in Arrowsmith</th></tr>
<tr><td>Visual-Motor Integration BEERY</td><td>45 %tile</td><td>92 %tile</td></tr>
<tr><td>Processing Speed WISC-III (before) WISC-IV (after)</td><td>12 %tile</td><td>34 %tile</td></tr>
<tr><td>Auditory Processing: WJ-R (before) Phonemic Awareness WJ-III (after</td><td>38 %tile</td><td>85 %tile</td></tr>
<tr><td>Applied Math Problems WJ-R (before) WJ-III (after)</td><td>16 %tile</td><td>31 %tile</td></tr>
<tr><td>Fluid Reasoning: WJ-R (before) Concept Formation: WJ-III (after)</td><td>5 %tile</td><td>64 %tile</td></tr>
<tr><td>Non-Verbal Intelligence TONI-3</td><td>34 %tile</td><td>91 %tile</td></tr>
</table>
13 year old Girl - 3 years in Arrowsmith Program
<table>
<tr><th>Performance Test</th><th>Pre-Arrowsmith</th><th>After 3 Years in Arrowsmith</th></tr>
<tr><td>Cognitive Efficiency WJ-III</td><td>6 %tile</td><td>65 %tile</td></tr>
<tr><td>Coding Subtest WISC–III (before) WISC-IV (after)</td><td>25 %tile</td><td>95 %tile</td></tr>
<tr><td>Thinking Ability WJ-III</td><td>56 %tile</td><td>91 %tile</td></tr>
<tr><td>Working Memory WJ-III</td><td>17 %tile</td><td>51 %tile</td></tr>
<tr><td>Visual-Auditory Learning WJ-III</td><td>3 %tile</td><td>67 %tile</td></tr>
<tr><td>Non-Verbal Intelligence TONI-3</td><td>32 %tile</td><td>94 %tile</td></tr>
</table>
</td>
</tr>
</table>

Study Name	Description of Study	Summary of Outcomes		
Eaton Learning Centre (ELC) **Changes Observed on Cognitive Scores of Arrowsmith Program Students** 1999-2004	Changes on a number of standardized psycho-educational assessment tests of students in the Arrowsmith Program at Arrowsmith School Toronto administered by Eaton Learning Centre in Vancouver. These results have been replicated with students at Eaton Arrowsmith School (EAS) with significant gains measured in: Cognitive efficiency Working memory Visual motor integration Visual perceptual functioning, Auditory processing for speech sounds, Semantic knowledge Achievement skills (see additional test data in Chart on page 10)	**18 year old Girl - 1 year in Arrowsmith Program**		
		Test	Pre-Arrowsmith	After 1 Year in Arrowsmith
		Writing Fluency WJ-III	2 %tile	53 %tile
		Math Fluency WJ-III	28 %tile	75 %tile
		Visual Auditory Learning WJ-III	4 %tile	61 %tile
		Cognitive Efficiency WJ-III	18 %tile	64 %tile
		Non Verbal IQ WAIS-III	8 %tile	Average
		12 year old Girl - 2 years in Arrowsmith Program		
		Test	Pre-Arrowsmith	After 2 Years in Arrowsmith
		Visual-Spatial Awareness	11 %tile	Average
		Working Memory WISC–III (before) WISC IV (after)	4 %tile	Average
		Processing Speed WISC–III (before) WISC IV (after)	38 %tile	90 %tile
		8 year old Boy– 3 years in Arrowsmith Program		
		Test	Pre-Arrowsmith	After 3 Years in Arrowsmith
		Working Memory For Numbers	2 %tile	43 %tile
		Visual-Motor Copying Speed	5 %tile	50 %tile
		Visual-Motor Integration BEERY	10 %tile	55 %tile
		Processing Speed WISC-IV	12 %tile	45 %tile
		Phonemic Awareness WJ-III	1 %tile	28 %tile
		Sound Blending WJ-III	1 %tile	32 %tile
		Auditory Processing WJ-R	1 %tile	32 %tile
		Fluid Reasoning WJ-R (before) Concept Formation WJ-III (after)	4 %tile	25 %tile
		Verbal Comprehension IQ WISC-III	4 %tile	26 %tile
		Non-Verbal Intelligence TONI-3	32 %tile	58 %tile
		Academic Fluency (Reading, Writing, Math Calculation Speed) WJ-III	Below grade level expectation	At grade level expectation
		Math Calculation Skills WJ-III	1 %tile	62 %tile

This report can be downloaded as a pdf document at:
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Relationship Between Arrowsmith Program Cognitive Exercises and Academic Skills

The following are some examples of the relationship between the cognitive programs and outcomes seen in specific academic skills and abilities.

READING	
Arrowsmith Program Exercise	**Benefits**
Broca's Speech Pronunciation	Sound-symbol correspondence; sounding out words using phonics; smoother reading; better pronunciation
Symbol Recognition	Sight word recognition; visual memory of words
Lexical Memory	Remembering words; vocabulary building
Symbol Relations	Understanding what was read; making connections between ideas in reading; inferential reasoning
Memory for Information	Remembering information
Symbolic Thinking	Getting the main point of what was read; thinking about the information and drawing conclusions; prioritizing information as to importance; appropriately interpreting text; thematic analysis
Motor Symbol Sequencing	Reading speed; eye tracking for smooth reading; not skipping words, endings of words, lines in text; not losing place in reading

WRITING	
Arrowsmith Program Exercise	**Benefits**
Motor Symbol Sequencing	Automatic flow of ideas into writing; more ideas transferred into written format; smoother mechanical operations in writing; copying text more accurately and with greater speed; able to complete tests and assignments in less time; handwriting becomes more legible; uniform formation of letters
Symbolic Thinking	Formulation of arguments in writing; relevant information is tied to thesis or main idea; less ambiguity in writing; less rambling, more to the point
Symbol Relations	Logical train of thought; develops logical argument supported by details; demonstrates understanding of concepts being discussed; proper use of grammar
Predicative Speech	Elaboration in sentences; proper use of grammar and placement of words in sequential order; good turn of phrase

SPELLING	
Arrowsmith Program Exercise	**Benefits**
Broca's Speech Pronunciation	Memory of sound-symbol correspondence for phonetic spelling
Symbol Recognition	Visual memory of words
Motor Symbol Sequencing	Muscle memory for writing words

MATHEMATICS	
Arrowsmith Program Exercise	**Benefits**
Quantification Sense	Can perform Math calculations in head; quantification; sense of number; can learn and retain math facts
Symbol Relations	Understanding concepts; understanding the "why" in Math; sees relationships in concepts; processing information
Memory for Information	Remembering instructions and information in Math lessons and oral communication
Symbol Recognition	Visual memory for formulas
Symbolic Thinking	Able to determine what is relevant information in a Math word problem necessary to solve the problem; able to generalize formulae appropriately to solve problems
Predicative Speech	Remembering order of operations; sense of procedure and steps in a Math procedure
Motor Symbol Sequencing	Eye tracking for computations on paper; neat and legible work; less careless errors in written computation

The Typical Arrowsmith Student

The typical student for the Arrowsmith Program:

- is of average or above average intelligence
- has a combination of the learning difficulties that are described in the Descriptions of Learning Dysfunctions on the Arrowsmith Program web site
- does not have severe intellectual, cognitive, emotional or behavioral disorders that would significantly affect his or her ability to participate in the Arrowsmith Program
- does not have acquired brain injury or an autism spectrum disorder
- is 6 years of age or older

These are guidelines only. There are many students who fall within these guidelines, others who may require further consideration and still others for whom we feel this program cannot provide meaningful benefit.

Students entering the Arrowsmith Program have ordinarily been experiencing a range of problems including:

- reading
- writing
- mathematics
- comprehension
- logical reasoning
- visual memory
- auditory memory
- dyslexia
- non-verbal learning
- auditory processing
- attention

For more information on the typical Arrowsmith Program student, please review the information on our website under the tab, Suitable Students:
http://www.arrowsmithschool.org/arrowsmithprogram-background/suitable-students.html

To learn more about the Arrowsmith Program please visit our website at:
http://www.arrowsmithschool.org/