

Frequently Asked Questions

General Questions

What is the Arrowsmith Program?

The Arrowsmith Program is a classroom-based program that is founded on the principles of neuroplasticity and works to strengthen weak cognitive areas (learning dysfunctions) that are the underlying causes of learning disabilities and struggles in learning. The program is composed of cognitive exercises developed by Barbara Arrowsmith Young that strengthens weak cognitive areas, ongoing teacher training and support, and remote monitoring of all student progress.

Is the program tailored to the student? How does that work?

The program is individualized for each student. Through an Arrowsmith assessment we are able to identify the student's areas of cognitive strength and weakness, and we create a tailored program based on these results.

How much of the day would my child spend doing Arrowsmith exercises?

A student spends about half their day in an Arrowsmith classroom doing cognitive exercises. That equates to four 40-minute periods (160 minutes or 2h 40min) per day from Monday to Friday. Some students may participate in additional periods per day in consultation with the family and school.

How long are students in the program?

Typically students are in the program between 3-4 years. More mild profiles can spend 1-2 years, more severe profiles may require 5 or more years.

When would one expect to see evidence of cognitive change? What kind of changes?

We can begin to see changes in students after 3-4 months of participation in the program. For example, if the student has a Motor Symbol Sequencing difficulty, where he/she has trouble learning motor plans for writing, work in this area quite often begins to improve hand writing after a few months of work. Others will experience improvements in their memory, understanding and attention to task. With more time in the program, students often begin to change behaviourally, where their new hold on their cognitive abilities can, for example, begin to increase confidence and social awareness among students.

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How long are the periods?

Each cognitive period is 40 minutes long.

What is the student:teacher ratio?

10:1. The students work independently with frequent teacher monitoring and feedback.

Is there homework associated with the program?

Two of the cognitive exercises (Word & Tracing) have a 30 minute homework component to provide further opportunity for cognitive growth.

At home students will do exactly the same thing they are doing in class, so parents do not and should not help their child with their homework.

What qualifies a teacher to be an Arrowsmith teacher?

All Arrowsmith teachers go through an intensive training course that prepares them to deliver the program within their school as well as all assessment protocols required. With this training they become certified Arrowsmith Teachers.

Is there a part time option where a student can do fewer exercises?

Once the Arrowsmith Program is established in a school for 2 years, administrators can seek approval for a part time program at their school, where a student would have the potential to work on 1-2 cognitive exercises per school year. Most students with learning difficulties require 3-4 years of full time classes (4 periods a day) to strengthen their cognitive weaknesses.

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Suitability Questions

Who does the program benefit?

Students entering the Arrowsmith Program have ordinarily been experiencing a range of difficulties such as problems with:

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

We suggest that parents or students review the list of Learning Dysfunctions in the Arrowsmith literature (Chart of Learning Dysfunctions and Learning Outcomes). They will find a list of cognitive areas addressed in our program and the common features of a deficit.

What makes a typical candidate?

The typical student enrolled in an Arrowsmith Program class:

- Is of average or above average intelligence
- Has a combination of the learning dysfunctions outlined in our literature
- Does not have severe intellectual, cognitive, emotional or behavioural 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 of elementary, secondary, or post-secondary school age

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.

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Who is not suitable for the program? How do you determine suitability?

Individuals with the conditions listed below are beyond the scope of Arrowsmith Program. Arrowsmith Program would therefore not be recommended for these issues. Suitability is determined in consultation between the family and the school. Each school determines its own additional suitability and enrolment criteria. An Arrowsmith assessment does not determine suitability. Features beyond the scope of Arrowsmith Program:

Acquired Brain Injury - We have worked with some individuals with acquired brain injury with some success. This difficulty is not unknowing the full scope of the injury - what brain tissue has been damaged and to what extent.

Severe Intellectual or Cognitive Disorders (e.g. MID, Global Delay) - These individuals have difficulty accessing the program because they have decreased foundational neural connections within the grey matter, and therefore have limitations to the neuroplastic capabilities of their brains.

Autism Spectrum Disorders - We have worked with students with autism that are high functioning (e.g. Asperger's) with some success as we can address the non-verbal piece and any underlying cognitive deficits. We cannot address the Autism or Asperger's as it is not a cognitive weakness.

Emotional or Behavioural Disorders - Some common examples include Oppositional Defiance Disorder, Aggression, Psychiatric disorders. These affect the student's ability to actively engage in the exercises and will have a direct impact on their progress through the exercises. We suggest individuals with these types of disorders seek treatment for these issues before considering participation in the program.

Does the program address attention issues like ADD/ADHD?

Arrowsmith recognizes that ADD/ADHD can be the result of:

1 - A **cognitive pile up**, where there are several weak cognitive areas that often include weakness in executive functioning areas. And since ADD/ADHD diagnoses are based on observable behaviours, if a child cannot hold attention, carry out a task, is easily distracted, or has difficulty regulating their behaviours they are often labeled as having ADD/ADHD when in fact it is a result of weaknesses in a combination of cognitive areas. As students work through their Arrowsmith Programs they begin to strengthen these weak cognitive areas and the need for medication is often reduced or eliminated completely.

2 - A **neurochemical imbalance** at the subcortical level. Because this form of ADD/ADHD is at the neurotransmitter level it is independent of cognitive deficits and therefore cannot be addressed through the Arrowsmith Program.

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Student Profile Questions

What is the youngest/oldest student that has been in the program?

The youngest student we have in the program is 6. The oldest to date is 82.

Students younger than 6 will have no or very little experience with desk work, and may find it difficult to sustain engagement and work independently for 40 minutes.

Does my child need a formal identification to participate in the Arrowsmith Program?

Arrowsmith does not require students participating in the program to be formally identified as being learning disabled.

**Some schools may require this as part of the student's enrollment in the program. This is at the discretion of the school.

What is the age range of students in the classroom?

An Arrowsmith classroom is a multi-age classroom, where students of varying ages can work side-by-side doing Arrowsmith exercises.

Since the program is individualized where each student works on their own cognitive program, having a range of student ages is not an issue and can even be beneficial, as the older students tend to take on a mentorship role in the classroom with the younger students.

Please explain the concept of sooner rather than later, and what are the benefits to having younger students in the program?

Learning disabilities can have a significant impact on students as they struggle through school and life in general. Learning problems interfere with both academic and social life, and can lead to limited success and a poor self-concept. Low self-esteem can even lead to depression, anxiety, or other mental illnesses. By targeting and strengthening learning dysfunctions at a younger age, we remove or lessen that possibility that a learning disability can have damaging effects to a student's life in the future. They will have the same opportunities as other students without learning difficulties.

Frequently Asked Questions

What happens if a high school-aged student wants to do Arrowsmith? What happens to his/her credits?

If students are in Arrowsmith during their high school years they are focussing on developing cognitive strengths and not curriculum content. They will therefore need to earn credits outside of their Arrowsmith Program. Some students take night, summer or online courses. Some schools offering Arrowsmith schedule students' days so they are participating in Arrowsmith and also earning high school credits.

For many families, it is recognized that until a student has improved ability to read, write, problem solve, comprehend and learn more independently, their credit earning ability will be limited. Instead, they decide their child should focus first on changing their ability to learn, and will then engage in opportunities to more effectively learn their high school content. This typically leads to far better performance outcomes in high school and post secondary pursuits.

What about students with behavioral difficulties?

Most students who struggle with learning academic skills because of cognitive difficulties also struggle to learn behavioural and social skills. Some have specific difficulties in understanding nonverbal communication and interpreting the world around them. This confusion that often leads to misbehaviour or perceived misbehaviour. It is also common for students to develop coping strategies to avoid failure in school, including some antisocial tendencies. These types of behavioural issues are addressed through particular exercises, or by being in an environment where only achievable, concrete tasks are placed in front of them.

For those individuals whose resistance, anger, verbal or aggressive behaviour is more chronic and/or untreated, the Arrowsmith Program is unlikely to be suitable for them. The Program's structure and required engagement is too challenging for them to manage. It is Arrowsmith's recommendation that treatment be sought to address serious emotional or behavioural issues before Arrowsmith participation is considered.

Frequently Asked Questions

Assessment Questions

What sort of testing/assessment would my child have to undergo to participate in the program?

Enrolment in the Arrowsmith Program is determined in consultation with the family and the participating school. A screening can involve conversations, review of previous school or psychological reports, or an student interview. Once a student is enrolled, they will complete an Arrowsmith assessment. This assessment is administered by the Arrowsmith teacher and involves tests specifically designed for Arrowsmith participation purposes. A psych-ed assessment cannot replace the Arrowsmith assessment process. The Arrowsmith Program assessment is not designed to diagnose learning disabilities, but to inform a student's unique cognitive profile and create an individualized program of Arrowsmith cognitive exercises.

Who does the assessment?

The Arrowsmith Assessment is administered by a certified Arrowsmith Program teacher. The results are reviewed and analysed by Arrowsmith Program staff.

How long does it take?

Assessing one student takes approximately 1 full day. The assessment process can also be divided across multiple days to lessen student fatigue or if the participating school schedules it this way.

Will the assessment identify my child with a learning disability?

The results of the Arrowsmith assessment will not formally diagnose a student as learning disabled. Instead, it is designed to measure the cognitive strengths and weaknesses of the student, and to create an individualized student profile and program.

How is the Arrowsmith assessment different than traditional psycho-educational testing?

Different in both objective and design. Psycho-educational assessments are intended to identify learning disabilities in order to recommend accommodations, modifications, or family resources that might lessen the impact of learning disabilities. Its design varies by administrator but typically it will involve observational and standardized measures of cognition and academic performance. Conversely, the Arrowsmith assessment is made of carefully designed tests that isolate cognitive areas and precisely measures their function. The objective of such an assessment is not to create recommendations for classroom accommodations but rather to create the unique profile of the individuals and a program of exercises that will fundamentally change their learning ability.

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I read Barbara Arrowsmith-Young's Book that discusses 19 cognitive areas, so I'm assuming my child will be tested in all 19?

The Arrowsmith Program assessment targets 13 cognitive areas - core areas which have been found to be the most critical aspects of academic, social and vocational skill development. While Barbara Arrowsmith Young had developed measures and exercises for 19 discrete areas, the Program's current model of assessment and programmed exercises has been proven to affect lifelong change and an improved quality of life.

How do you determine which exercises a student will work on once they are assessed? As a parent, can I decide which cognitive exercises my child will work on?

Once a student is assessed, an Individual Learning Profile is created which outlines a student's strengths and weaknesses in each area of cognitive function. Then the appropriate exercises are programmed for the student in order to address their areas of weakness.

There are several factors that involve determining the cognitive exercises that a student will work on; the number of critical learning dysfunctions; the severity and the specific combination of dysfunctions; which areas are most critical to address as improvement in these areas will have the most significant impact in a student's life (academic and social success); and the time period that a student can commit to the program. Parents are encouraged to provide insight about their child's experience, but programming decision are made by Arrowsmith Program staff.

What happens if a student is assessed and it is determined that the student only needs to work on 1 -2 exercises?

If a student is deemed a suitable candidate for Arrowsmith it is very rare that he or she would have only 1 or 2 areas of cognitive function to address. That being said it is still possible and in this situation the student's program could consist of 2 periods working on 1 cognitive area.

** If your school offers a part time program, this could be an appropriate type of candidate for this program.

Is there any research? Is the Arrowsmith Program effective?

There have been multiple studies performed that demonstrate positive outcomes of Arrowsmith Program. These studies can be located on the Arrowsmith Program website.

There are also a number of neuro-imaging and outcome studies that are currently being conducted. For more information about these current research studies, please refer to www.arrowsmithschool.org to access the Research Initiatives Report.

Frequently Asked Questions

Do students maintain their improvements? Is there any follow up on how the kids are doing after Arrowsmith?

Students do maintain the cognitive gains that they make in the program. The program has tracked students 30 years out of the program and they have not experienced cognitive decline. Also, there is a study on our website that explains how 69% of a 42 student study pool (students with learning disabilities) no longer required any resource support after completing their Arrowsmith Programs.

Please see the *Report on the Arrowsmith Program in the Toronto Catholic District School Board* for details. This report can be found at www.arrowsmithschool.org.

How does this program compare to other brain training programs like FastForWord?

With the growing awareness of Neuroplasticity around the world, has come the development of many types of brain training programs. FastForWord, for example, is a program also rooted in neuroplasticity that focuses on a combination of cognitive areas that are related to reading skills.

Arrowsmith recognizes that learning disabilities are the result of multiple under-functioning cognitive areas (Learning Dysfunctions). The Arrowsmith Program is made up of a series of cognitive exercises that target and strengthen the specific under-functioning cognitive areas that could be inhibiting a student from learning to their potential.

Arrowsmith reaches beyond the scope of an intervention with one or two skills, as it helps students to overcome multiple learning disabilities. Arrowsmith is also unique in that it provides a service component, where student data is analyzed and reported on by trained Arrowsmith Coordinators.

Why would a child not succeed in the program?

In what circumstances would the program not work?

If a student is deemed suitable for the program by Arrowsmith trained representatives, and this student is able to actively engage in the cognitive exercises, there is no reason why a student would not benefit from participating in the program. If a student was removed from their program prematurely, did not have family support, or if a student did not properly engage in the exercises, it is possible that success would be limited. If a student with an atypical profile is enrolled in the program, must be an understanding that cognitive gains cannot easily be predicted and may be limited.

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Miscellaneous Questions

Have you seen any problems with combining multiple age groups in one classroom?

Most of our sites combine multiple age groups within one classroom setting and we have not seen any problems with this structure. Every student is working on a unique individualized program therefore the need for interaction is limited within the classroom. We have actually seen that this structure can have a very positive outcome, where older students adopt a mentor role to younger students in the class.

Does having a separate AP classroom promote isolation/stigma among these students?

The Arrowsmith Classroom, like any resource classroom, can be stigmatized if those in the rest of the school do not understand what Arrowsmith is.

If Arrowsmith is portrayed as a classroom filled with students who are not smart, then this type of classroom will promote isolation among students. If there is awareness that those that participate in Arrowsmith simply learn differently, and enter the Arrowsmith classroom to work on really challenging exercises, the perception of this classroom changes. Some schools have special events where they invite other students into the Arrowsmith classroom to show others what they do in their class, and that indeed the work is quite challenging. This helps to dissolve such stereotypes.

Are all students able to keep up with the work?

The Arrowsmith exercises are designed in a way that students come into class each day and they have an understanding of exactly what they need to do. They have achievable personalized goals that are set by their teacher and homework is assigned for only one area of cognitive function. Some students can experience cognitive fatigue when beginning the program for up to approximately 6 weeks as they adjust to their new setting and challenges associated with the exercise. Students are working on one cognitive area at a time, and they are working on levels in which they can be successful.

If we have any further questions, are we able to contact the Arrowsmith Program Staff?

All questions regarding Arrowsmith should be answered at the school/site level. If anyone contacts Arrowsmith Toronto regarding a particular student, your questions will be redirected to the school/site associated with the particular student.

