

ASSISTIVE TECHNOLOGY CAN HELP YOUR CHILD WITH WS ACCESS THE SCHOOL CURRICULUM

When a learner is struggling in any area of life and nothing seems to help, both parents and professionals often turn to technology as a solution. Using what is called assistive technology (AT), a toddler can color with an adapted crayon, a teenager can use word prediction software to become a successful writer, and an adult can use speech-to text technology to be gainfully employed. An evaluation should be conducted at least annually for every student who has an IEP and may benefit from it.

Assistive technology includes the devices, software, and services a student needs to receive a free appropriate public education (FAPE), which is guaranteed by a federal law called the Individuals with Disabilities Education Act (IDEA). AT should also be considered to help a student be educated in the least restrictive environment (LRE), also ensured by IDEA.

While it is clear that some children with disabilities can benefit from AT, parents need to be proactive about seeking services for their child and become familiar with the law that ensures AT services are provided by public schools.

An age of technology

Technology is rapidly advancing, sometimes on a daily basis. New technology changes not only how we learn and engage with the world, but how we function in daily life. Consider Aimee Mullins, an athlete who set world records running on prosthetic legs at the 1996 Paralympics. Her high-tech limbs help her reach the potential she has to be a runner, a model, and an actress. Consider Bridget Thomson, who became the first student in Minnesota to take the Scholastic Aptitude Test (SAT) using speech-to-text as an accommodation. Speech-to-text technology helped Bridget reach her potential.

Despite the fact that technology can help children achieve their dreams, students with disabilities are not systematically evaluated to see if they would benefit from AT services. Anecdotal evidence suggests that only 3 to 5 percent of students with disabilities have assistive technology written into their Individualized Education Program (IEP), according to research conducted by Dave Edyburn of the University of Wisconsin-Milwaukee.

Although sometimes students use AT even though it is not included in their IEPs, a large percentage of students who would benefit from AT are not receiving services. That's why it's important for parents to be proactive and to make sure AT services are considered for their children.

AT and the law

While AT is a relatively young field, the laws that govern it are not new. Schools must consider the use of assistive technology for students.

Today's rapidly advancing technology can open new worlds for children with disabilities, but parents must proactively look for assistive technology solutions.

Individuals with Williams syndrome have a unique cognitive/learning profile comprised of verbal strengths and moderate to severe weaknesses in non-verbal and spatial learning areas. Additionally they are highly social. This rare combination of characteristics makes most special education classrooms inappropriate as they are not designed to accommodate the strengths of these children. Similarly, inclusion in a regular classroom is not “automatically” the best fit for individuals with WS. Although learning in a classroom with their peers is more socially appropriate, strategies must be put in place to accommodate the unique learning profile of a student with WS and insure their success, when learning beside peers who do not have cognitive challenges, and can therefore move through the curriculum at a quicker pace, and grasp concepts in a different manner.

Assistive Technology can often be used to help a student with WS access the general education curriculum – to bridge the gap between the child’s abilities and needs and the demands of the activities in the classroom. Utilizing a SETT Framework (see attached), we aim to evaluate students and build a plan to show how curriculum access can be achieved regardless of ability and how goals can be defined that will reflect individual academic achievement. The SETT framework can serve as a blue print for implementing bridges that are necessary for a child to get the most out of every educational opportunity and live life to their full potential. Many schools across the country are not currently utilizing Assistive Technology for their students, and often those that are, could be using it better. Following is a sample AT Evaluation that depicts how AT can help in the classroom.

SETT Framework – Sample AT Evaluation Report for a 10 year old child with Williams syndrome

If we complete the statement “We are individualizing the student’s program because ____.”

- *Those "because" are the student’s unique needs **(THE GAPS)***
- *Next we describe how the aspects of the student’s disability **(THE GAPS)** affects their involvement and progress in the general curriculum*
- *Then we describe what accommodations, modifications, and related services **(THE BRIDGES)** are needed for the student to participate and make progress in the general curriculum.*

All of this helps identify appropriate goals to strive for, and to help the student make progress in the curriculum, continue to show academic growth and solidify their role as a student & friend.

General Information about the “Student”:

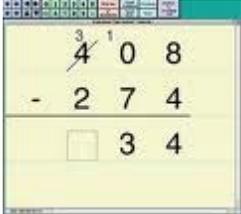
- Has Williams Syndrome
- Struggles with attention to task
- Demonstrates high musical affinity
- Per 2009 U o fC report –
 - needs help with initiation and sustaining attention during tasks
 - Demonstrates high ability to understand complex language and respond to commands (this does not always translate to the classroom)
 - Written work may not accurately reflect her knowledge
 - Reduce clutter on a page in order to improve Student’s ability to attend to each task
 - Directions should be delivered in a positive fashion versus a negative fashion
 - Utilize Kidspiration to assist with thought organization
 - Utilize pre-teaching and re-teaching to secure and reinforce concepts
 - May need to use external reinforcers to help Student to attend and learn new tasks
- During a meeting with Dr. Levine in 2008 the following observations were made
 - Utilize Student’s preferences and interests as motivators: these included Hannah Montana, etc.
- Student does not eat lunch – feels rushed (she is often distracted by a window or other children)
- Has sensitivity to tags and fabrics
- Does not try new things well

- Student is in 3rd (repeated) grade and is reading at beginning 1st grade level.
- Student loves sugar, makeup and gum.
- Enjoys kitties and anything related to Indians and wolves
- IS currently demonstrating an interest in boys, especially young teenage boys
- Really struggles with understanding authority – she does not understand why the adult makes the rules and she doesn’t
- Using going to the bathroom as an avoidance strategy
- Will persevere or obsess on things
- Has limited concept of time and calendar
- Has need to have “things” with her – seems to alleviate anxiety
- Gets in to stuff and/or will take things from other people
- Limited understanding of personal space and personal boundaries
- Will do things without asking – when she could do them with
- Seeking autonomy - but this misguided at this time
- Can be really interested in something – really likes the manipulatives at the Montessori school
- Loses interest in things quickly.
- Student is not on any medications for attention at this time
- Is the only 3rd grader in her class at this time
- Last year Student was mentoring younger students
- Student loves Spanish
- Student loves Science - loves experiments
- Student is not a friend – plays by herself

- Speech Therapy is currently focusing on language used in social situations
 - Testing measures revealed that Student struggles to take another individual's perspective and provided the following suggestions to those who work with Student
 - verbally breaking down situations
 - leading her to think about more than one interpretation (often her first explanation does not always match the intensity of the situation)
 - reminding her to "read" a person's face
 - help her and the peers around her to come to **mutually** agreeable solutions to problems (during testing Student chose to please the friend to avoid conflict in every instance)
- AT school tends to be motivated by how task completion relates to self and personal motivations and/or preferred activities
- Can be redirected easily, especially if instructions are concrete
- Reading: tested with the DRA: is working at approximately 1st grade level
- Struggles with lining up problems in math
- Functioning at first grade level in math
- Student requires a tremendous amount of structure and consistency
- Needs tasks outlined and set up
- Has been disrespectful and confrontational lately

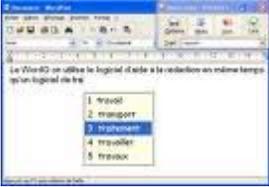
Student	Environment	Task	Goal	Tool
<p>Mom or neighbor takes her – she is dropped at door and makes it to her classroom by herself</p>	<p>ARRIVING AT SCHOOL</p>	<p>ENTER SCHOOL/CLASS :</p> <ul style="list-style-type: none"> - go to classroom - put stuff in cubby - 	<p>Is this a time that we can infuse a goal regarding following directions</p>	<p>Provide visual cue of tasks to be accomplished</p>
<p>Student enjoys going to the playground in the morning - her time on the playground in the morning is often limited due to arrival time at school – this time is a motivator</p>		<p>TALKING WITH FRIENDS:</p> <p>On the playground in the morning</p>	<p>Possibly infuse social goals here and facilitate appropriate interaction with peers on the playground before school</p>	<p>Utilize all staff to provide facilitation and support to social exchanges and interaction opportunities.</p>

Student	Environment	Task	Goal	Tool
<p>Has limited/no organizational skills</p> <p>Does not keep track of personal things</p> <p>Will hand mother a variety of squashed papers.</p>	<p>ORGANIZATION SKILLS</p>	<p>Get papers to and from home</p> <p>Keep clothing organized</p>	<p>Student will be able demonstrate the ability to follow given procedures for care of personal items and school</p> <p>INFUSE the goal into a naturally occurring task</p> <p>Can we INFUSE another Social/Communication Goal?</p> <p>Can we INFUSE a goal around having her complete a task?</p>	<p>TO SUPPORT ORGANIZATIONAL SKILLS MAY WANT TO CONSIDER USING:</p> <ul style="list-style-type: none"> - communication book in combination with visual schedule – could also include behavioral reinforcement (external reinforcer)

Student	Environment	Task	Goal	Tool
<p>Can add – single digit numbers to 10</p> <p>Will memorize addition tables</p> <p>Last year was adding 2 digit numbers</p> <p>Writes large, needs lots of space on the page</p> <p>Struggles with changes in language of directions, frequently needs clarification</p> <p>Can read a digital clock but may reverse last two numbers on clock</p>	<p>MATH</p>	<p>Organizing problems on page</p> <p>Adding double digit numbers</p> <p>Awareness of money: names of coins, value of coins, value of items, making change</p>	<p>Student will demonstrate the ability to give the correct amount of money to the nearest dollar for an item.</p> <p>Student will demonstrate the ability to complete grade level math activities using a calculator</p> <p>Student will demonstrate the ability to utilize a digital clock to follow a given schedule.</p>	<p>TO ASSIST WITH MATH CONSIDER USING:</p>  <p>MathPad Plus Cost: \$199.00 www.intellitools.com</p> <p>This program helps to organize problems and can provide visual and verbal support as needed by the student.</p> <p>Teach Math using the Dollar up method – avoid use of coins</p> <p>May want to attach to contextual learning experience e.g. earning an item over time and saving money - keeping</p> <p>Provide graph paper to assist with lining up problems.</p>

Student	Environment	Task	Goal	Tool
<p>Loves experiments</p> <p>Seems to do well with context based learning experiences and kinesthetic experiences</p>	<p>SCIENCE</p>	<p>Participate in the experiences</p> <p>Complete worksheets?</p>	<p>GOAL:</p> <p>Student will learn 2 to 3 concepts per unit of instruction (related to the instructional standards of focus for that unit).</p> <p>Example: Student will be able to identify the habitats for various animals.</p>	<p>TO ADDRESS DIFFERENCE IN READING LEVEL AND READING MATERIALS:</p> <p>TO BUILD UNDERSTANDING: Interactive study guides will be provided for both pre-teaching and re-teaching a story and associated concepts. Study Guides should have options for auditory feedback, be highly visually stimulating (possible links to live video to build understanding of unfamiliar concepts).</p> <p>TO REINFORCE UNDERSTANDING: Provide opportunities within the Study Guides to interact with the material by being able to manipulate it, launch a video link, insert a picture, or type in a sentence (USING WORD PREDICTION) as part of classwork/homework expectations.</p> <p><i>Ready Made Study Guides often available on internet by doing Search of “___” PowerPoint</i> Cost \$FREE <i>OR use Pete’s PowerPoint Station</i> www.pppst.com</p> <p><i>WordQ (Word Prediction/Text Reader)</i> www.wordq.com Cost \$199</p> <p>TO ASSESS UNDERSTANDING: Provide Drop and Drag class work, homework, and assessments <i>Inspiration/Kidspiration Cost: \$69.00</i> Many templates/assignments can be found for FREE by searching the web or www.inspiration.com</p>

Student	Environment	Task	Goal	Tool
<p>Interested in Indians and history</p> <p>Enjoys stories</p>	<p>SOCIAL STUDIES</p>		<p>GOAL:</p> <p>Student will learn from 4 to 8 vocabulary words per unit of instruction.</p> <p>GOAL:</p> <p>Student will learn 2 to 3 concepts per unit of instruction (related to the instructional standards of focus for that unit).</p> <p>Example:</p> <p>Student will demonstrate understanding of cause and effect relationships of events occurring in history</p>	<p>TO ADDRESS DIFFERENCE IN READING LEVEL AND READING MATERIALS AND... TO BUILD UNDERSTANDING:</p> <p>Interactive study guides will be provided for both pre-teaching and re-teaching a story and associated concepts. Study Guides should have options for auditory feedback, be highly visually stimulating (possible links to live video to build understanding of unfamiliar concepts).</p> <p>TO REINFORCE UNDERSTANDING:</p> <p>Provide opportunities within the Study Guides to interact with the material by being able to manipulate it, launch a video link, insert a picture, or type in a sentence (USING WORD PREDICTION) as part of classwork/homework expectations.</p> <p><i>Ready Made Study Guides often available on internet by doing Search of “___” PowerPoint</i> <i>Cost \$FREE</i> <i>OR use Pete’s PowerPoint Station</i> www.pppst.com</p> <p><i>WordQ (Word Prediction/Text Reader)</i> www.wordq.com Cost \$199</p> <p>TO ASSESS UNDERSTANDING:</p> <p>Provide Drop and Drag class work, homework, and assessments</p> <p><i>Inspiration/Kidspiration Cost: \$69.00</i> Many templates/assignments can be found for FREE by searching the web or www.inspiration.com</p>

Student	Environment	Task	Goal	Tool
<p>Struggles with spelling</p> <p>Does better spelling words in isolation</p> <p>Practices spelling words during music therapy and hippotherapy</p>	<p>SPELLING</p>	<p>Spelling words correctly when writing</p>	<p>Student will demonstrate the ability to spell 5-7 grade level spelling words each week.</p> <p>**Need to separate spelling from writing – if spelling is being tested, do not test writing at the same time.</p> <p>Complete spelling work on the computer to eliminate the mechanical struggles of handwriting.</p>	<p>TO ADDRESS DIFFICULTY IN SPELLING IN ORDER TO SUPPORT WRITING: Try one of the following:</p> <p>Premier Technology Suite: www.readingmadeez.com - Talking word processor - Talking dictionary --can download free trial</p>  <p>WordQ www.wordq.com \$199.00 This product provides auditory support and spelling/vocabulary support via word prediction and prompts</p> <p>FOR PRACTICE: www.spellingcity.com</p>

Student	Environment	Task	Goal	Tool
<p>Struggles in written expression</p> <p>Has great ideas but has a hard time getting them down on paper</p> <p>Reading at below first grade level</p>	<p>READING</p> <p>LANGUAGE ARTS</p>	<p>Writing paragraphs and stories.</p> <p>Reading grade level books</p> <p>CO State Standards (excerpt):</p> <ol style="list-style-type: none"> a. Use text features (such as bold type, titles, headings, captions, table of contents, graphics) to locate and organize information and to make predictions (DOK 1-2) b. Use informational text structures (sequence, cause/effect) to predict, construct meaning, and deepen understanding (DOK 1-3) c. Locate information to support opinions, predictions, and conclusions (DOK 2-3) d. Use semantic cues and signal words (because, although) to identify cause/effect and compare/contrast relationships (DOK 2-3) e. Adjust reading rate according to type of text and purpose for reading (DOK 1) 	<p>GOAL:</p> <p>Student will learn from 4 to 8 vocabulary words per unit of instruction.</p> <p>Example: Focusing on synonyms and antonyms for each of these words may help build understanding and directly relates</p> <p>GOAL:</p> <p>Student will learn 2 to 3 concepts per unit of instruction (related to the instructional standards of focus for that unit).</p> <p>Example: Student will discriminate between fiction and nonfiction (imaginary vs. true).</p>	<p>TO ADDRESS HANDWRITING, SPELLING, and NEEDS FOR AUDITORY SUPPORT CONSIDER USING:</p>  <p>WordQ www.wordq.com \$199.00 This product provides auditory support and spelling/vocabulary support via word prediction and prompts – May also want to consider speech to text with SpeakQ add-on AND/OR</p>  <p>Scan & Read Pro www.readingmadeez.com \$ FREE Provides ability to scan any document, read it to student, and allows student to interact with it digitally.</p>

Student	Environment	Task	Goal	Tool
<p>Student is not currently participating in art class – seems to be doing her own thing</p> <p>Individuals with WS typically struggle with Art tasks; visual perceptual tasks are intrinsically difficult for these kids</p>	<p>ART</p>	<p>Complete art tasks</p>	<p>Student will demonstrate the ability to complete a 3 step task.</p>	<p>TO ACCOMMODATE STUDENT'S UNFAMILIARTIY & PROCESSING TIME:</p> <ul style="list-style-type: none"> - Pre-teach art concepts. - Provide Student with the sample to either finish or provide visual step by step cues –
<p>Student participates in a class that is 1st, 2nd, & 3rd grades</p> <p>Student frequently sits on the side because she does not want to run</p> <p>Student often refuses to participate</p>	<p>PHYSICAL EDUCATION</p>	<p>Play games</p> <p>Do sports</p>	<p>Student will follow a pre-taught 4 to 5 step set of directions of a group activity in order to perform her part of a team activity.</p>	<p>TO ACCOMMODATE STUDENT'S UNFAMILIARTIY & PROCESSING TIME:</p> <p>PE teacher will communication to OT, the games of the week so OT can pre-teach the 4 to 5 step directions that Student need's to participate effectively. Possibly using video as a way to build understanding, creating a list of steps etc.</p> <p style="text-align: right;"> http://www.sportplan.net/drills COST: \$FREE </p>

<p>Student has a strong affinity for music Enjoys plunking on the piano and plucking her guitar.</p> <p>This class should be an area of strength for Student</p>	<p>MUSIC</p>	<p>Participate in music related tasks</p>		
----------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------	-------------------------------------------	--	--

Student	Environment	Task	Goal	Tool
<p>She feels rushed Does not always get to eat Says she does not play with anyone</p> <p>Can</p>	<p>LUNCH</p>	<ul style="list-style-type: none"> - Eat lunch - Social opportunities 	<p>Student will demonstrate the ability to use the microwave safely and independently.</p>	<p>Provide Student with a step-by-step visual guideline to accomplish task.</p>

<p>Student does not interact with other kids – plays by herself</p>	<p>RECESS – 20 MINUTES</p>	<ul style="list-style-type: none"> - Play games - Interact with friends 	<p>Possible implement Circle of Friends strategy to promote friendships and age appropriate genuine interactions of friendship vs. benevolence with Student</p> <p>Speech therapist can potentially work with Student during this time to promote appropriate social interactions with friends and assist Student with understanding Unspoken communication between children.</p>	<p>Utilize speech therapist to support Student’s understanding of Unwritten communication and to support her ability to carry on a conversation on a topic of interest of a peer.</p>
<p>Student often forgets papers and/or does not put everything in to back pack and leaves school carrying multiple items</p>	<p>GOING HOME</p>	<p>Ensure that items get into backpack</p>	<p>Student will demonstrate the ability to put all necessary items into backpack before leaving school.</p>	<p>Provide Student with a visual cue (clear sequence) for process of getting ready to go home. This does not have to Student specific could be posted as a guideline for the entire class.</p>

OTHER OPTIONS TO ADDRESS HANDWRITING, SPELLING, AND NEEDS FOR AUDITORY SUPPORT :



Fusion Keyboard

www.writerlearning.com \$429

Utilize Handwriting Without Tears to provide consistent instruction in writing. – In the classroom utilize a consistent writing paper with wither two lines like HWT or a single writing line. Focus on one or two letters per week to track and build consistency in written output.

Refrain from using worksheets with small amounts of space to written or ones that are particularly busy as these are typically very difficult for individuals with WS to manage.