



## **Handwriting Benefits in Special Education: Multisensory Strategies to Help Children Achieve**

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**Handwriting Without Tears®**



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**H**andwriting is an essential skill that too often is overlooked in today's classrooms. However, researchers suggest that the production of creative and well-written text is directly linked to handwriting instruction (Graham & Harris 2005). Numerous studies connect strong handwriting instruction to improved writing performance, academic success, and overall students' self-esteem (Berninger et al 1997; Graham, Harris, and Fink 2000; Graham and Harris 2005; Jones and Christensen 1999).

Handwriting also has a significant impact on brain function. In a study conducted by Indiana University, researchers used an MRI machine to scan neural activity in the brains of children before and after letter instruction. The study found that "in children who had practiced printing by hand, the neural activity was far more enhanced and 'adult-like' than in those who had simply looked at letters" (Bounds 2010).

Specialists have found that the act of handwriting "is composed of a set of complex behaviors that are developed over a period of time. Difficulties in both printing and cursive writing stem from a number of factors that include motor deficits, visual-motor coordination problems, visual memory deficits, and orthographic processing" (Fletcher 2007).

A careful blend of cognitive, kinesthetic, and perceptual motor components is required for handwriting, and studies have estimated that 10 to 30 percent of elementary school students struggle with handwriting (Bonny 1992, Karlsdottir and Stephansson, 2002 as cited in Feder and Majnemer 2007).

Children with special needs, such as visual-motor deficiencies, attention deficits, and autism often find it more challenging to write. Handwriting difficulties need to be addressed in special education so that all children can receive the benefits of handwriting and these important foundation skills. "An explicit focus on the development of handwriting skills is important, especially for students with learning disabilities who are most likely to experience these deficits" (Fletcher 2007).

Handwriting Without Tears (HWT) takes a mainstream approach to teaching children of diverse abilities. The HWT curriculum provides differentiated instruction through multisensory teaching strategies and developmentally appropriate instruction. Readiness activities prepare children for pencil and paper activities and lay the foundation for printing and cursive success. The Handwriting Without Tears curriculum and its Pre-K component, *Get Set For School™*, give teachers hands-on teaching strategies to meet the needs of each child's individual learning style and to meet the requirements for special education legislation and expectations.

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## Individuals with Disabilities Education Act (IDEA)

Recent laws have changed the way we address special education in this country. “These changes are based in part on scientific research that has reliably established that all humans can learn and benefit from appropriate education and training” (Fisher 2007). As a result, many more children have access to appropriate education, which should include handwriting instruction.

IDEA was introduced in 1975 and has been amended several times to ensure that disabled children are receiving equal rights in the classroom. The law provides that all children, regardless of ability or illness, are entitled to free, appropriate public education and that education must be provided in the least restrictive environment.

The “least restrictive environment” is interpreted differently in different states. “Current law requires that students with disabilities be educated in the least restrictive alternative program. In brief, this means that the child should be educated in a setting that deviates the least from the regular program, yet is appropriate for the particular child” (Fisher 2007).

There are many debates about whether an inclusive model or combined services model is the preferable method of delivering education to children with special needs. “Over the past decades, the full-inclusion movement came to the forefront” (Mastropieri 2010). However, no one situation will work for each child. Depending on the type and functionality of the disability, students can be in an inclusive classroom, pulled-out for the entire school day, or educated through a combined service model of classroom and one-on-one sessions.

This makes curriculum choice important when evaluating a handwriting program that can be successful in any of these scenarios. Handwriting Without Tears is that curriculum.

## Handwriting Instruction in a Differentiated Classroom

Inclusive classrooms need a curriculum that offers flexibility and activities that address learners at every level.

According to IDEA, children with disabilities include 13 categories: autism, deaf-blindness, deafness, emotional disturbance, hearing impairment, mental retardation, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, and visual impairment.<sup>1</sup> Today’s inclusive classroom may have students with many of these conditions; as well, special needs children may have several concurrent diagnoses.

A recent study was conducted to see the effects of using Handwriting Without Tears to teach two preschool students with severe disabilities to write their names. The first participant was a 6-year-old boy with autism and behavioral disorders. The second participant was 5-year-old boy with developmental delays, behavior disorders, and tremors.

The results showed that it worked. “Handwriting Without Tears was beneficial for teaching preschool students with disabilities to write their names” (McBride 2009).

Recognizing a classroom as a group of individuals, Handwriting Without Tears has many unique teaching strategies to address a wide range of disabilities and follows best practices for special education. The curriculum does not assume an entry level of skills, thus enabling children to learn and participate at the appropriate level. Skills are scaffold from the most basic for children working at the preschool level (pre-instructional—sort big and little objects) to the most advanced (independent writing).

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<sup>1</sup> States have a choice to include developmental delays as a disability for children ages three to nine. After nine, the child can no longer be diagnosed with developmental delays.

Handwriting Without Tears' teaching strategies and activities facilitate differentiated instruction that succeeds with varying ability levels. With some children you will be establishing readiness skills, and then move on to the three stages of handwriting instruction: imitation, copying, and independent writing.

For example, if you are teaching the letter **H** to many different levels in one classroom, you can easily adapt a lesson so that all children are learning. Some children will be following along in their workbooks or on a slate chalkboard. Some children will be building the letter with the Wood Pieces or Roll-A-Dough Letters™. Some children will be using the A-B-C Touch & Flip™ Cards, following the formation with their fingers on the tactile element of the cards. Because of the consistent directions and variety of manipulatives, all levels can be taught at the same time with ease.

Some children with special needs may be able to read, but their fine motor and social skills are behind that of their peers. The teacher's guides will show you how to adapt lessons to address social and fine motor control.

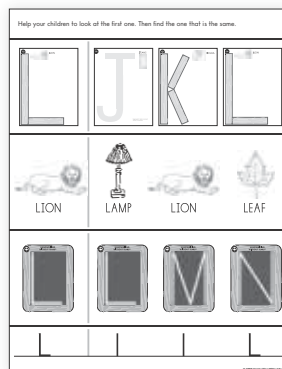
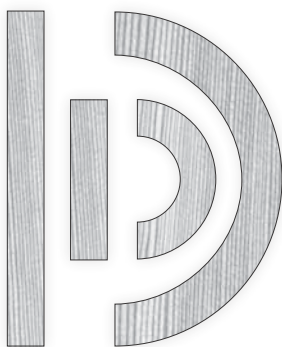
Some children with intellectual disabilities may have a hard time concentrating and staying on task. Therefore, handwriting lessons are designed to be quick so students won't lose concentration, interest, and become frustrated.

Handwriting Without Tears' workbooks and manipulatives make handwriting engaging, which is particularly important for children with special needs. The multisensory style appeals to children with attention deficits, visual acuity problems, motor control problems, and many other difficulties. Instructional stages are explicit, and teachers in inclusive classrooms benefit from the differentiated instruction integrated throughout the program.

## Developmental Progression

Handwriting Without Tears is based on a developmental progression of learning. Children with special needs move at their own pace through the program. Founder, Jan Z. Olsen, OTR, created the program by performing a task analysis of printing. She realized that writing is a complex skill, but that it can be broken into simple steps.

Young children don't begin writing instruction with paper and pencil. Instead, they learn how to build letters with Wood Pieces they physically handle and manipulate. For example, when children learn **L**, they imitate how the teacher makes **L**. They learn size and shape (big line and little line), position (vertical and horizontal), and letter formation (big line first, little line next). Success with building **L** leads to success with writing **L**. Children know their letters and how to make them before they write them. When it's time to write, they can focus on grip, the movement of the pencil, and how to use the helping hand to hold their paper.



Skills are broken into small achievable steps. Students are expected to participate, but the work is appropriate to their current and growing abilities. As they master skills, students are exposed to the next set of skills they'll be learning. They receive multiple exposures to skills so they can both master and maintain them. In this fashion, children can celebrate successes early without the frustration of starting at a level that is not appropriate to their needs.

Handwriting Without Tears gets children forming capital letters before lowercase letters because it is developmentally appropriate. Capital letters are easier because they all occupy the same space. Depending on their disability, some children with special needs won't go beyond capital letter formation. This is fine. Lowercase letters are more difficult due to different starts and sizes. Children will learn to recognize lowercase letters, but capitals are easier for control. Therefore, children can be successful and functional writers using only capital letters.

In consideration of children with special needs, there are no grade levels printed on the Handwriting Without Tears student workbooks. Therefore, if a child is in fourth grade but working with a workbook that is developmentally appropriate for a first grader, the child will not be embarrassed or frustrated in the classroom.

Teachers and occupational therapists find the complementary Pre-K program, Get Set for School, useful for children with special needs who are at that developmental level. It begins with the fundamentals of learning to draw and color, encouraging social-emotional development, and building sensory motor skills, which all help to build crucial pre-writing skills. Children use Wood Pieces and dough to build and recognize letters, they sing songs to increase social skills, and they use multisensory tools to build gross and fine motor control.

## Multisensory Instruction/ Sensory Motor Component

The hands-on, multisensory components of Handwriting Without Tears and Get Set for School appeal to all senses, making them appropriate for addressing different styles of learning (visual, auditory, tactile, kinesthetic).

Children who do not hear or understand verbal directions need more visual cues or representations. The A-B-C Touch & Flip Cards provide picture representations of letters and numbers as well as a tactile element. This mode of instruction benefits nonverbal autistic children, deaf or hearing impaired children, and children with other disabilities where verbal communication is not an option.

Another visual element is the smiley face, which helps children form letters. The smiley face, located on the top left corner of letter formation spaces in the workbooks, the Slate, and the blue Mat, shows children where to begin their letters. It encourages top-to-bottom writing and left-to-right orientation—preventing reversals and bottom-up writing.





Roll-A-Dough Letters is a multisensory product that can help children with special needs who have a preference for kinesthetic learning or children who struggle with motor control. Specialists suggest that “if students have trouble feeling the way letters are formed, have them work in various media: salt, sand, shaving cream, finger paint” (Winebrenner 2006). Roll-A-Dough Letters lets student roll dough snakes to form letters on letter cards. This helps children with letter formation and increases fine motor control.

## **Repetition and Workbooks**

All children need repetition to successfully form letters on their own. Emily Knapton, OTR/L, co-developer of the Get Set for School Pre-K readiness curriculum, explains that “For children in general education, there is a magic number of 32 repetitions before a skill is learned. In special education, it can take anywhere from 10 times that amount to 100 times that amount to learn a new skill” (pers. comm. 2011).

It’s important that directions for letter formation are simple, clear, and consistent to make it easier for children to learn new skills and concepts. Handwriting Without Tears is very careful about word choice and directions. The program uses consistent, child friendly language for letter formation. Fewer words make the repetition easier for children and the child friendly language makes it fun.

The teacher’s guides provide many activities to use repetition to teach letter formation. An example is the Voices activity. In Voices, the teacher demonstrates the letter formation in a normal voice, then continues to repeat the formations in different voices: loud, soft, robotic, squeaky, etc. This strategy helps children who need a lot of repetition to learn but also keeps the lesson fun for those children who have already learned the formation. The strategy also appeals to auditory learners and children with low attention spans.

Children with visual acuity problems or attention deficits are easily distracted. All HWT workbooks are in high contrast black and white. There are no busy and distracting visuals and all illustrations promote left-to-right directionality. They promote clarity with clean, simple pages. All workbooks contain many opportunities and room for repetition to practice a letter.

Finally, at The Children’s School No. 15 in Rochester, New York, an eight-year-old boy who never attended school, spoke no English, and suffered from a severe visual impairment joined one of their classrooms. He began schooling in an inclusive classroom and “within his first few weeks at school, Jackson learns to write his name. Working through a book titled, *Handwriting Without Tears*, he practices printing letters while his classmates learn cursive” (Lankes 2011).

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## Work Consistency Across Subjects

Special education best practices dictate that daily routine and consistency can help support learning. Most researchers suggest to “establish a daily routine on which the students with special needs can depend” (Christie 2007). Therefore, as students progress through different tiers of instruction, different grades, and different subjects, it is crucial to have a curriculum that can provide this consistency.

Handwriting Without Tears meets this need. Letter formations stay consistent throughout grades so children get familiar with and start to expect certain words and remember their meaning.

Another unique way that Handwriting Without Tears provides consistency is through Double Lines. Children are faced with many different types of paper and many different types of lines to learn how to write. Some students will be writing on one line, three lines, or even four. For students who are developing early writing skills, these lines can cause confusion and frustration. Handwriting Without Tears created Double Lines to avoid confusion and make it simple for children to understand size and placement of letters.

Small letters fit in the middle space, tall letters go in the top space, descending letters fit in the bottom space. The mid line controls size, and the base line guides placement. The use of double lines is consistent in our workbooks and worksheets. In 1997, Clark-Wentz reported that double lines were less confusing than typical school paper, especially for students who have visual figure/ground deficits.

Double lines provide simplicity and consistency in an inclusive classroom. For children who are quickly mastering writing skills, double lines will help them transition easily to different types of paper they will find in the classroom.

To continue consistency for special needs students across subjects, Handwriting Without Tears provides the A+ Worksheet Maker. This online tool helps educators make supplemental worksheets for many subjects using double lines and the Handwriting Without Tears vertical font. This product lets you make predictable, consistent worksheets for any subject.

Handwriting Without Tears also provides consistency across subjects with Sentence School. Sentence School is a kindergarten writing program that promotes language arts skills including vocabulary, grammar, and conceptual thinking. It is comprised of quick, active lessons that teach sentence building. To use Sentence School, educators should make sure that children can first recognize the letters in their names, then letters in any context, then words. If students get to the point where they can write a sentence, then Sentence School is appropriate. The design, the lines, and the style are the same as Handwriting Without Tears workbooks, keeping this consistency and routine to learning across subjects.

## The Social-Emotional Element

For many special needs students, social-emotional skills need to be addressed so that these children can feel comfortable and accepted in their environment, especially if they are entering an inclusive classroom.

Handwriting Without Tears includes a strong social-emotional component. The award winning Pre-K program, Get Set for School, addresses school readiness and sets foundations that help children build crucial readiness skills for writing and success throughout school.

Music is important to children. The auditory element of music and the gross/fine motor control in dance moves and finger plays are significant for a lot of children with special needs. Handwriting Without Tears has three CDs that promote readiness skills



and appropriate social interaction. Songs like, "Hello Song" from the *Get Set for School Sing Along* CD and "I'm Happy to See You" from the *Sing, Sound, & Count With Me* CD, both have catchy lyrics and dance moves that help children with social-emotional skills. Music is used throughout our curriculum in grades K-3. This can help children with special needs adjust socially in an inclusive classroom.

For some children, participation, interaction, and engagement can be a challenge. Mat Man, Magic C Bunny, and Squawker the parrot are just a few characters used in the Handwriting Without Tears program to increase interaction and participation. These characters are also a multisensory way to develop social-emotional, cognitive, and sequencing skills.

The Horizon Academy in Kansas City, Missouri has been using Handwriting Without Tears successfully for a wide variety of students. "This program has allowed us to successfully teach many students handwriting skills who may not have been able to write legibly otherwise" (Shoopman 2011).

## Digital Techniques

Not all children will be functional, fluent writers. Children need to learn the skill of handwriting because of its role in developing the brain. However, for some children, digital techniques will be the best way to communicate fluently and with automaticity. Computers, interactive whiteboards, and even handheld devices like the iPad can have significant benefits and enable children to learn to write.

Occupational Therapist Kate Mennenga uses Handwriting Without Tears and finds that many of her special needs students respond very well to digital devices and, in some instances, they are more drawn to digital devices than to paper. She explains that digital tools "are good for teaching fine motor skills (isolating the index finger) and visual motor (aiming at a target). It's fun for kids as a letter review activity and for letter formation" (pers. comm. 2011).

To expand its multisensory teaching options, Handwriting Without Tears released Digital Teaching Tools. Now educators can use a computer or interactive whiteboard to model the steps for writing letters and numbers. Digital Teaching Tools have the same consistent, child friendly language used in the student workbooks. Animated features and an easy interface make this ideal for students who are more drawn to digital applications.

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## The Importance of Professional Development

Special education is focused on the individual needs of students. “Despite federal and state efforts to standardize teaching, the special education teacher is ultimately responsible for employing best practices and implementing interventions to build on students’ present level of performance in order to meet their social, emotional, behavioral, and intellectual needs” (Spaulding 2009). Therefore, teachers are responsible for addressing many different styles in the classroom to meet the needs of their individual students.

Teachers need to be creative and flexible in their teaching and problem solving. They face a difficult task and play such an important role in an inclusive classroom. It is important that they are aware of the developmental stages of handwriting and can employ effective strategies to teach letters at each of those levels.

Handwriting Without Tears offers hundreds of workshops to equip educators with all the tools and strategies to successfully implement the program. These workshops address all learning styles so teachers can immediately implement the curriculum in an inclusive classroom or in a combined services model.

Handwriting Without Tears also offers Level 1 Certification in Handwriting. Educators can attend workshops and start on the track to being a handwriting specialist. There are Level 1 Certified handwriting specialists throughout the country. On the website ([hwtcertification.com](http://hwtcertification.com)), educators can find handwriting specialists by region if they ever run into difficulty implementing the program.

## The Home Connection

Creating a positive home connection is crucial to special education. Due to the complexity of disabilities, parents and caregivers will all hold unique opinions on what is best for their children. “Virtually any kind of parent involvement boosts student achievement” (Winebrenner 2006). This involvement can happen in a variety of ways and on many levels.

Handwriting Without Tears understands the importance of this connection. The curriculum includes many ways to get parents and caregivers involved in handwriting instruction. For example, all of our materials are available to the public. If a teacher notices that a child is responding well to one of the manipulatives or workbooks, parents and caregivers can obtain these materials to continue instruction at home. The program works best with short, friendly sessions (no more than five minutes). Keeping to this brief time ensures that children will not get distracted or lose focus.

Several of our products were created with the home connection in mind. For example, *I Know My Numbers* is a series of black and white booklets with opportunities for coloring and number formation. These booklets were meant to be sent home and used for practice with family. They contain several multisensory activities that can be completed with everyday household materials.

Children with special needs can make significant progress using the Handwriting Without Tears program in an inclusive classroom or one-one-one. The unique approach to writing, the differentiated instruction, the multisensory strategies, and the focus on the individual student make it the curriculum of choice for special education and general education.



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