



# **Factors That May Affect Learning**

***TSA Educational In-Service***



*Education, Research and Support*

This presentation will focus on factors that commonly impact students with Tourette Syndrome. Not every child with TS will have all of these difficulties but a large enough percentage are affected that it warrants attention.



## Learning Disabilities (LD)

- **LD contributes to poor school performance and low self-esteem**
- **Any learning disability could be present**
  - **Should be assessed by a qualified professional**
- **LD is not an intelligence issue**
  - **Frequently children with TS have average to above average intelligence**



Many students with TS have average to above average IQs, but they may have related difficulties that impact a wide variety of tasks, skills and thus academic performance. Every child is unique, symptoms and learning difficulties vary from child to child. Students who appear to be performing below their ability level should be assessed for associated learning difficulties.

This presentation will focus on the most common difficulties that are associated with TS, but we want to stress that there are numerous reasons for students with TS to be experiencing difficulties. It is essential to determine why the child is not performing to his or her ability, so that appropriate supports can be provided.



## Dysgraphia

- **Characteristics may include:**
  - Slow and laborious writing
  - Hand and finger cramping
  - Sloppy handwriting, uneven spacing, irregular margins, inconsistent lettering
  - Inability to copy correctly from book to paper or board to paper (Visual Motor)
  - Difficulty with written expression, e.g., getting thoughts onto paper
  - Difficulty with punctuation and capitalization
  - Difficulty with note-taking



The DSM IV identifies dysgraphia as a "Disorder of Written Expression." Writing skills are substantially below those expected given the person's age, measured intelligence, and age-appropriate education. Due to a wide variety of reasons students with TS may struggle with writing. A few are:

- interfering tics/obsessions
- hand or finger pain
- inappropriate grasp of writing utensil

This results in:

- sloppy, excessively large or small handwriting
- difficulty with the mechanics (punctuation, capitalization)
- difficulty copying from the board or a book
- difficulty taking notes
- difficulty beginning and/or completing a writing assignment
- a need for perfection with writing and/or task which may result in excessive erasing
- writing too slowly or too fast



## What to do About Dysgraphia

- **Get evaluations by an Occupational Therapist and Assistive Technologist**
  - Use OT and AT services as needed
- **Give extra assistance in class**
  - Use a scribe, provide class notes, study guides
- **Be proactive with assistive technologies**
  - Research frequently changing assistive computer software
  - Learn keyboarding early
  - Routinely use a computer at home and in class



An Occupational Therapy assessment may be needed.

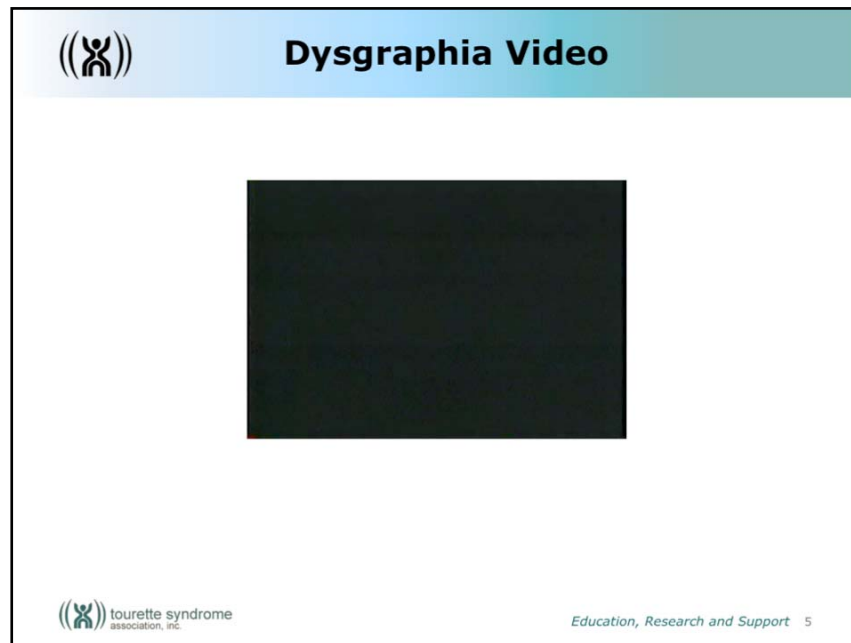
In order to get an accurate level of need, the assessment should take place during the time of day when the child is most likely to have interfering symptoms. A writing sample should be at least a paragraph and on a topic that is not of interest to the student. The evaluation should be simulating a “real world” situation and be demanding in a variety of skills. Working with an OT at an early age can sometimes be helpful for very young students. However, it is not unusual that people with TS will always have difficulties with handwriting. Once the evaluation is complete, an Assistive Technology evaluation may also be recommended.

The Assistive Technology Assessment will determine appropriate supports and technology that can be used to assist the child with challenges.

Frequently used technologies and modifications include:

- **Computer skills**, to be taught and utilized for classroom work
- **Printing**, instead of cursive; and do not grade on appearance
- **Use of a scribe**, particularly for very young children this has the added advantage of teaching the skills for dictation which will be very useful later for voice activated computer programs.
- **Providing notes or notes with blanks to be filled in**, allows the student to focus on what is being taught instead of using all their concentration/ neurological energy on the writing process.

These accommodations generally assist most students with interfering TS, ADHD and OCD issues.



Students who struggle with writing often will either write as little as possible or will refuse to write. This can lead to an assumption that the student is being “oppositional” just for the sake of being oppositional instead of recognizing the difficulty as dysgraphia. This assumption would result in the student being punished which would increase stress and symptoms and result in increased behavior issues and failure.

A supportive environment that provides accommodations such as the use of assistive technologies can significantly enhance the learning experience.



## Processing Speed

- **Processing speed issues cause difficulties:**
  - **Following directions, whether simple or complicated**
  - **Processing abstract information, such as math word problems**
  - **Following conversations**
  - **In noisy environments**
  - **Responding quickly**
  - **Remembering information directions, lists**
  - **Differentiating between similar sounds or words**



Difficulties with processing information frequently go unrecognized. The student may appear to be defiant, uncooperative, lazy, intentionally unprepared and less capable than he or she really is.

The student may respond slowly to requests, questions, directions and comments, struggle with peer relationships and appear to purposely 'forget'.

This causes frustration for teachers, family members and friends, but no one is more frustrated by this than the student.

Environmental modifications may be necessary.



## What to Do For Processing Difficulties

- **Provide extra time for response**
- **Develop a plan so that students know they will be asked a specific question**
- **Subtly provide extra cueing and prompting**
- **Provide directions both auditorially and visually**
- **Keep directions brief**
- **Provide concrete visual and auditory examples**
- **Allow preferential seating**
- **Encourage the student to ask for clarification**



Students who are slow to process information become easily frustrated and anxious in this fast-paced world. Establishing a supportive relationship will provide the student with a sense of safety and will encourage the learning of strategies and techniques that they will need to use as a student and adult.

Attempts should be made to determine the nature of the disorder so that appropriate supports can be provided.

An assessment by someone trained in processing deficits may be necessary.

It is important to determine the conditions under which the student experiences problems. Is it during specific tasks, at specific times of day, in certain subject areas? Is it caused by the need to complete tics and/or OCD symptoms? Is it the speed at which verbal information is received?

An OCD example that presents as an auditory processing problem: A young boy needed to repeat in his mind the last sentence said by one specific teacher before he could respond.


Distractions can interfere with a child's auditory processing. For example, a child who is distracted by what a person is wearing, what is going on behind the person, a noise in the hallway, other activities in the classroom, etc. may require additional time for tasks, or the student may need to focus attention on the floor or ceiling to reduce the amount of stimulation.

Asking the student to rephrase questions/directions can help ensure that the student has properly assimilated the information.

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## Executive Dysfunction

- **Common Difficulties**
  - Keeping track of belongings
  - Organizing material
  - Getting started on a task and staying on task
  - Breaking down long assignments and projects
  - Sequencing information
  - Forming goals
  - Writing down homework assignments
  - Performing to their potential
  - Managing time
  - Working Memory



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Executive Function involves the necessary skills to succeed in school and as an adult. People with Executive Dysfunction do not have the necessary organizational abilities to problem solve in both academic and social settings.

Students often do not, consistently, possess the abilities to correctly write down assignments, bring home the necessary materials to complete homework assignments and to turn them in when they are due. This is often interpreted as purposeful even though receiving failing grades has no impact on changing this pattern.


They frequently have inconsistent difficulties and lose their homework and other materials; come to class unprepared; have lockers and desks which are a mess; can't finishing anything; are unable to manage workload efficiently, and do not have the ability to manage complex (or sometimes even simple) tasks. Asking a student to take out pen, paper and geography book, turn to page 27 and answer question 5 may be too much even for students who are above average intellectually.

Instead of failing grades, students need strategies, accommodations, modifications and available technology that will assist in being successful.

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## Classroom Suggestions For Dealing With Executive Dysfunction

- **Teach and support:**
  - Organizational strategies
  - Time management
  - Strategies to assist with attention and ability to edit and correct mistakes
  - Methods of recording, organizing and handing in homework
  - Strategies of breaking down assignments into manageable segments
  - Techniques for problems solving
- **Other suggestions**
  - Reduce workload – Quality vs. Quantity
  - Extra set of books at home



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A consultant teacher or resource room teacher who meets with a student who has TS and organizational difficulties can make the difference between success and failure. They meet with the student on a regular basis depending upon the student's level of need.

This person must work with the student's team in order to: be aware of assignments and specific difficulties the student is experiencing; to develop strategies and modifications and/or accommodations; and to discuss homework priorities and timeframes. For example, if a student is strong in Math, a reduction in a specific math assignment would allow for more time and attention to be placed on a long term science project.

Being creative when developing techniques is often helpful. As an example, students may need to record assignments on a small taping device, or e-mail themselves their assignments. A technique that actually many of us use of leaving information on our home voice mail may be a successful technique for the students.



## Social Skills Deficits

- **Students with social skills deficits will tend to**
  - **Be socially immature**
  - **Interact better with adults than with their peers**
  - **Experience some anxiety in social situations**
  - **Demonstrate lack of judgment**
  - **Experience social rejection**
  - **Miss social cues**



Many youngsters with TS are delayed in their ability to consistently respond in a manner that is age appropriate. They may:

- Have difficulty participating in group activities with peers
- Prefer to engage in activities which are typically for younger children
- Blurt out inappropriate statements
- Have low tolerance for frustration
- Have no friends
- Have the most difficulties during unstructured times (cafeteria, gym, recess, hallways)
- Some of these children may not understand and/or respond age appropriately to social cues such as facial expressions and physical gestures (e.g., glancing at a clock is a signal that a person wants to end this conversation).
- Not understand physical space – child stands too close (Can be taught to casually swing arm to determine “arms length” away from person).



## Helping to Develop Social Skills

- **Pragmatic language support from speech therapist**
- **Use of social stories by counselor and the classroom teachers**
- **Participation in a social skills group**
- **Encourage involvement in groups with similar interest**
- **Focus on child's strength/interest**
- **Carefully place student when doing group work**
- **Establish a safe classroom environment**



For many students social skills are not innate. They need to be taught. A great tool is the presentation of social stories (written or cartoon format) with a counselor, speech language pathologist, or a school psychologist. This can be practiced and reinforced in the classroom.

Having the student in social skills groups during lunch can be a safe environment in which to learn the importance of taking turns, how to approach peers, adults, proper distance while speaking to others, positive communication skills, etc.

Frequently students who lack social skills, want desperately to have friends but they do not know how to do it. Teaching proper social skills can be just as important as academics for the student's success in school and as an adult .



## Sensory Processing Issues

- Can affect any of the senses and cause great anxiety for many children with TS
- Common indicators are:
  - Sensitivity to sudden touch, the feel of certain fabrics and tags
  - Inability to tolerate the texture of certain foods
  - Sensitivity to certain smells and over-reactive to certain sounds
  - Sensitivity to bright or fluorescent lights
  - Experiencing “sensory tics” e.g. picking at scabs; biting nails, scratching or hitting self
  - Difficulty in highly over stimulating environments such as the school bus, cafeteria, gym, hallways, etc.
  - Need for increased sensory input - Running into things purposefully, frequent hugs, painful actions



Sensory input for some children with TS may be perceived and/or interpreted incorrectly.


Some children are hypersensitive to touch, light, smell, taste and/or sounds. These same children may:

- respond to touch as if they have been hit
- have increased difficulties in noisy environments
- avoid or have trouble in situations that involve overstimulation (cafeteria, gym, music, art, recess, etc.)

These same children, at times, may be hyposensitive and require more sensory input. They may engage in painful behaviors such as skin picking, hitting oneself, purposely running into walls, lockers, slamming items, chewing on items, hurting self, carrying heavy objects, wearing heavy coats during school, etc.

## What Can Be Done for Sensory Issues

- **Evaluation by occupational therapist trained in sensory processing issues**
- **A plan is developed, explained and followed by all adults who have contact with the child**
- **Suggested environmental modifications**
  - **Leave class 3-4 minutes early to avoid crowded hallways**
  - **Avoid loud, chaotic environments**
  - **Find alternate place to eat lunch with a few friends**
  - **Use a headset to avoid auditory overload and distractibility**
  - **Be Creative**




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An awareness that any ‘bizarre’ behaviors may in-fact be symptoms of this complex disorder.

An evaluation by an Occupational Therapist trained in sensory integration is necessary if you suspect sensory processing issues. A ‘sensory diet’ consisting of strategies, accommodations, modifications specific to this child’s needs can make all the difference for an otherwise successful student who is failing. There are no “standard” sensory diets to meet each child’s needs. As any good plan , it must be developed, reviewed and modified to meet the student’s specific needs.


Sensory needs and symptoms may change over time. Re-evaluations and new ‘sensory diets’ may be necessary through graduation. It is important that the student be able to figure out new ideas and ways of coping with the many challenges that sensory issues may bring. Talking with the child about things that may be difficult for them and helping them to develop creative ideas to cope as they age will be very beneficial in the long run. This will allow the student to advocate for themselves more and more.

For example, some students require music while doing homework; others need quiet. Eating crunchy food, hard candy or chewing gum while doing independent work can assist some student’s ability to focus on the task. Spinning in circles, jumping , or running might be helpful for some, while reduced lighting, soft material to touch, or specialized sensory pillows to sit on may help others. Strategies are only limited to the need and imagination of the trained specialists who develop the ‘sensory diets’.

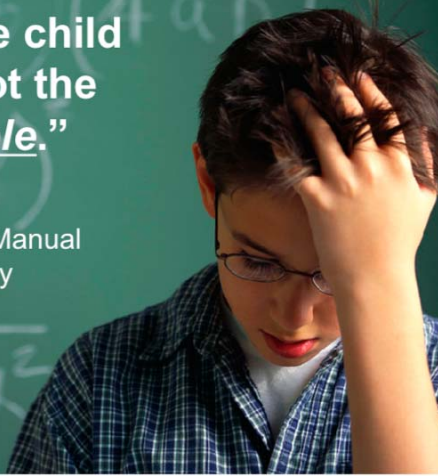
 **Perspective**

**“We must see the child  
as in trouble, not the  
cause of trouble.”**

C.H.A.D.D. Educators Manual  
Dr. Russell Barkley

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As mentioned in the first part of our in-service, children with Tourette Syndrome are just like any other children except that they are dealing with a neurobiological disorder on top of being a regular child. No child wants to be a problem or to cause trouble or fail. It is our responsibility as adults to identify the child who is struggling and develop ways to help that child be successful in his/her environment.



## Contact TSA for More Information and Resources

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TSA is a wonderful organization that has been around for over 35 years working for and with individuals and families with TS. Don't hesitate to call the Tourette Syndrome Association, become a member and get involved. They have many resources for you to check out and take advantage of on their web site.