

Executive Summary

Research Question

- What happens when sensory integration techniques are used during instruction to improve attending skills during reading for children with Autism Spectrum Disorders (ASD)?
- **Problem** – Autism Spectrum Disorder (ASD) is sometimes called a sensory integration disorder (Janzen, 1999). Children with ASD often have difficulty sorting out all of the sensory input they may encounter in the course of a day. All sensory information comes to them at once. As a result, they may hand flap, aggress, have tantrums, or withdraw from the situation. They become overwhelmed. We are taught to provide a sensory break for the student, which can take them away from instruction up to a half an hour. This interferes with instruction and the learning and acquisition of skills.

Rationale

- One area in which my students struggle on a daily basis is the area of sensory integration. When these deficits manifest, the students may display odd behaviors, such as hand flapping, odd noises and grimaces, acts of aggression, and eye movements.
- My area of concern is meeting these deficit areas during their instruction. These sensory deficits have a large impact on students' learning and can take them away from their instruction.
- The various types of sensory deficits include tactile (messages received through touch), vestibular (inner mechanism important to movement), kinesthesia (messages received from inside the body important to motor movement).

Data Collection Procedures

- Attention is measured on 4 variables. 1. On task behavior, which is where the child is engaged and performing on a given task; 2. Noise, this is where a child is making grunts and grimaces or talking in tangents unrelated to the activity (for example, reciting lines from a movie they have watched, known as echolalia); 3. Motor, this is where the child may run from their seat for an unknown reason, lack of impulse control; 4. Off task, this is where the student may be turning their attention to an unknown area; here the child may appear to be staring off into space, usually at a corner in the room. When this occurs, it is often difficult to bring them back into the activity and they require lots of verbal prompting to have them refocus.
- I took random samples of the students in one of the four centers during reading instruction. These centers are, worktable with me, computer time, Leap Pad/book time, and work systems. The samples were 3 minutes in duration and I observed the students and used tally marks under each of the four variables and would check off what the students attending looked like during each sample.
- The sensory intervention I used were deep pressure message, bitey bites, inflated bumpy disk, and weighted vests.

Data Analysis and Findings

- Baseline data showed that students were having difficulty staying on task due to sensory integration deficits. Four students of particular interest on task percentages were quite low. They were Sean at 17%, Tony at 17%, Seth at 52%, and Ellen at 49%. Once the interventions were introduced there percentages increased significantly. They were Sean at 72%, Tony at 82%, Seth at 73%, and Ellen at 93%. It is amazing to me how much Ellen's time on task increased. I used the inflated bumpy disk for her to sit on and it was like a whole new experience for her. She was able to focus and complete tasks with very little sensory interruption, the disk provided her with the sensory feedback she needed. Currently, she looks for the disk and always sits on it during her work times to help her focus.

Barriers/Limitations

- Small class size (7 students)
- Children are with me for 3 to 4 years consecutively
- I provide for sensory needs intuitively, it is natural for me
- Used all 4 centers for data collection.
- Very little use of journals to help with conclusions.

Policy Implications

- These children our apart of our schools and need the necessary support to learn and be included with their regular education peers. This funding for sensory integration materials, teacher assistants to help students integrate, and more training for teacher in the area of Autism Spectrum Disorders and sensory integration.
- 1 out of every 166 children with labeled on the Autism Spectrum Disorder spectrum. This means that classrooms, teachers, speech pathologists, occupational therapists, and classroom aides are needed in every school that serves children with Autism Spectrum Disorders. Many of these services in the private sector are extremely expensive and not available to most families. Public schools must provide for these families.
- Many health insurance programs will not pay for outside services for these children and it is important that early interventions be put in place as soon as a diagnosis is given. This shows that there is need for early childhood classrooms designed to meet the needs of these children and their families.

Next Steps

* Character education. One of the largest symptoms of Autism Spectrum Disorder is lack of social skills. They are unable to interact with others in the families, community, and schools. With the utilization of sensory techniques during instruction, it will make the learning and application of character education easier for these students. The use of social stories, role play, and sensory integration during instruction will aide these children in being more viable participants in our communities.

