

## Effects of Sensory Integration Techniques in Science Education of Autistic Students

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**Abstract :** Sensory integration methods are very useful and improve daily functioning autistic and mentally disabled children. Autism is a neurobiological disorder that impairs one's ability to communicate with and relate to others as well as their sensory system. Children with autism, even highly functioning kids, can find it difficult to process language with surrounding noise or smells. They are hypersensitive to things we can ignore such as sight, sounds and touch. Adolescents with highly functioning autism or Asperger Syndrome can study Science and Math but the social aspect is difficult for them. Nature science is an area of study that attracts many of these kids. It is a systematic field in which the children can focus on a small aspect. If you follow these rules you can come up with an expected result. Sensory integration program and systematic classroom observation are quantitative methods of measuring classroom functioning and behaviors from direct observations. These methods specify both the events and behaviors that are to be observed and how they are to be recorded. Our students with and without autism attended the lessons in the classroom of nature science in the school and in the laboratory of University of Science and Technology in Bydgoszcz. The aim of this study is investigation the effects of sensory integration methods in teaching to students with autism. They were observed during experimental lessons in the classroom and in the laboratory. Their physical characteristics, sensory dysfunction, and behavior in class were taken into consideration by comparing their similarities and differences. In the chemistry classroom, every autistic student is paired with a mentor from their school. In the laboratory, the children are expected to wear goggles, gloves and a lab coat. The chemistry classes in the laboratory were held for four hours with a lunch break, and according to the assistants, the children were engaged the whole time. In classroom of nature science, the students are encouraged to use the interactive exhibition of chemical, physical and mathematical models constructed by the author of this paper. Our students with and without autism attended the lessons in those laboratories. The teacher's goals are: to assist the child in inhibiting and modulating sensory information and support the child in processing a response to sensory stimulation.

**Keywords :** autism spectrum disorder, science education, sensory integration techniques, student with special educational needs

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