Abstract

Creative Project: The Impact of Acoustics on Children with Autism

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Acoustics play a crucial role in the learning environment for children with Autism or Autism Spectrum Disorder. Autism, or Autism Spectrum Disorder (ASD), refers to a broad range of conditions characterized by challenges with social skills, repetitive behaviors, speech, and nonverbal communication. Autism affects an estimated 1 in 59 children (Autism Speaks, 2018). About 13% of public-school enrollment in the United States of America are children with disability, out of which, close to 9% are children with Autism disorder, according to National Center for Educational Statistics (NCES). Classrooms serve as the major setting for emotional, cognitive, social, and psychological development for all students (Kanakri, 2014). Understanding the impact of noise and acoustics can help designers develop and design teaching spaces that will facilitate the education and future independence of children with Autism (Kanakri, 2014).

This research will evaluate the current situation in the classroom of various Pre-K, Kindergarten, Elementary, and Middle schools in Indiana, New York, and New Jersey based on the opinion and feedback of teachers. A questionnaire was distributed to teachers, regarding what noises and other variables appear to impact their students the most. The research aims to highlight the current design problems, and future design improvements that could be suggested to enhance the quality of acoustics/noise in learning environments.

Keywords: Autism, acoustics, noise, learning disabilities, elementary schools, education setting