

Research and Evidence

Supporting VizZle Visual Learning Software

There is a wealth of research and evidence in support of the efficacy of a visual language approach to educating children with autism, visual supports for autism, and the effectiveness of materials presented interactively (on a computer or electronic whiteboard). VizZle is designed to capitalize on both the child with ASD's stronger visual processing skills for interpreting visually based information (Althaus, de Sonnevill, Minderaa, Hensen & Til, 1996; Mottron, Burack, Stauder & Robaey, 1999; Shah & Frith, 1993; Thaut, 1987), and their inherent interest in multimedia (Mazurek et al., 2011, Shane & Albert, 2008).

The foremost reason why parents of children diagnosed with ASD seek help is a delay in language (DeGiacomo & Fombonne, 1998). Inadequate language is a defining feature of the ASD diagnosis (DSM IV-TR), so it follows logically that language-based instruction is problematic for this population. Children on the ASD spectrum tend to use visual processing as their dominant information processing mode (ibid). Because of that strength they usually possess a heightened interest in visual materials (Furth, 1981). Due to this strong interest and their stronger visual processing capabilities, most individuals with autism benefit from the use of visual content to enhance communication, help organize daily experiences and improve school performance (Shane, Weiss-Kapp 2007; Cafiero, 2001; Grandin, 1995). VizZle is designed to enable educators and parents to provide this content, with both the creation tools necessary for individualization and a deep library of ready-made content created by educators using VizZle in the classroom daily.

The most thorough documentation of the efficacy of the Visual Language Model that VizZle developers used as the basis of the program is in *Visual Language in Autism* by Howard Shane, Ph. D. The book fully describes the meticulous protocols and evidence generated by a research study currently entering its eighth year at the Monarch School for Children with Autism in Shaker Heights, OH by Dr. Shane and his team from Children's Hospital Boston. The Visual Language Programming developed as part of what is now known as The Monarch Model was proven to be highly effective in both engaging and educating children on the autism spectrum, with 66 to 88% of all goals across all domains achieving significant progress (Goals "Mastered" plus "Adequate Progress") across the student population since 2005 (Kearns, 2008).

The National Professional Development Center for Autism Spectrum Disorders (NPDC on ASD) has identified Visual Supports as an evidence-based practice for serving students with autism. The NPDC on ASD is a multi-university center that operates through three sites: the FPG Child Development Institute at the University of North Carolina at Chapel Hill, the M.I.N.D. Institute at University of California at Davis Medical School, and the Waisman Center at the University of Wisconsin at Madison. It uses rigorous criteria to determine whether a practice is evidence-based. Findings on each of the evidence-based practices for Autism Spectrum Disorders (including visual supports) are posted at <http://autismpdc.fpg.unc.edu/content/evidence-based-practices>.

The National Autism Center's National Standards Project conducted a comprehensive review and evaluation of existing research into treatments for children and adolescents with ASD. In the resulting National Standards Project Report (National Autism Center, 2009), they reported on 11 Established Treatments that have sufficient research support to demonstrate they are effective. Of those 11 treatments, 2 are specifically visual support interventions ("Story-based Intervention" and "Schedules") and another 4 rely heavily on visual supports as part



of the intervention package (“Comprehensive Behavioral Treatment for Young Children,” “Behavioral Package,” “Self-management” and “Modeling”).

The Autism Internet Modules (AIM, autisminternetmodules.org), a project developed by the Ohio Center for Autism and Low Incidence (OCALI) in partnership with the Autism Society of America (ASA), the Nebraska Autism Spectrum Disorders Network, the National Professional Development Center on Autism Spectrum Disorders, Toronto's Geneva Centre for Autism and others, has developed online learning modules of evidence-based practices and interventions for educators and parents. Their module on Visual Supports was one of the first developed (even prior to modules on well known paradigms like ABA and Floortime/DIR).

Evidence supporting the efficacy of instruction via screen-based media is compelling as well. Designed to be used interactively, either on a computer, an electronic whiteboard or a mobile tablet, VizZle instructional materials take advantage of the inherent interest children with ASD have for electronic media. That these children have extensive interest in computers, television and video has been well documented. The majority choose to spend more time with electronic media than with all other forms of play combined (Mazuek et al., 2011, Shane & Albert, 2008).

The NPDC on ASD describes Computer-Aided Instruction as an Evidence-Based Practice. AIM also developed an online module for Computer-Aided Instruction as an evidence-based best practice for autism. In one of the many studies available, students with ASD were attentive to a computer-generated lesson 97% of the time (learning 74% of the targeted nouns) but attentive to a teacher-directed lesson only 62% of the time (learning 41% of the targeted nouns)(Moore & Calvert, 2000). Those numbers represent the difference between success and failure.

As VizZle is designed to create and provide visually supported educational content used interactively on computers or electronic whiteboards, VizZle capitalizes on the documented strengths, learning styles and preferences of children with autism to help them succeed and achieve.

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