Chapter 7
Educational Leadership and Integrated Support for Students with Autism Spectrum Disorders

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ABSTRACT

This chapter addresses the integrated approach to the support of children diagnosed with Autism Spectrum Disorders (ASD). In this context we, first, discuss the legislative background, providing legal basis for autism support in an educational environment. We further briefly outline psychological and neurological aspects of ASD diagnostics. We consider how legislative and psychological issues impact special education methods and instructional technology support for ASD. The technology tools addressed include mobile devices and applications, virtual reality, and robotics. The chapter concludes with a report on the development of college-level course in instructional technology for technology facilitators and special education teachers working with ASD students. Considering that systematic research in the instructional use of affordable robotics is still lacking, the case study focuses primarily on the instructional use of popular LEGO robots. The holistic approach to ASD support, combining educational leadership, counseling, special education methods and technological factors, is emphasized throughout the chapter.

INTRODUCTION

The educational and counseling support for Autism Spectrum Disorders has been gaining attention in academic and clinical communities due to enhanced diagnostic techniques and continuing legislative changes. The key legislative landmarks go back to *Public Law 94-142, The Education for All Handicapped Children Act* (EHA), passed in 1975 by the United States Congress. In 2004, this law, intended to ensure equal access of all children to public education, was reauthorized as *The Individuals with Disabilities Education Act* (IDEA). The IDEA law ensures that children with disabilities are guaranteed access to a free and appropriate education (FAPE) in the least restrictive environment (LRE). An important element of the original 1975 law was the concept of an Individualized Educational Plan (IEP), allowing to

modify the educational curriculum in order to meet the needs of students with disabilities. As a result of legislative changes on the federal level, the state departments of education across the United States have been introducing new requirements for special education teachers and instructional technology specialists; for example, the Pennsylvania Department of Education recently introduced additional special education requirements (competencies) for K-12 teachers and those seeking certification as instructional technology specialists.

The legislative changes have been evolving hand in hand with the development of the enhanced diagnostic techniques in the medical research community. Under Section B of IDEA, a child with a disability must be classified under one of the following disability categories such as Autism, Deaf-blindness, Deafness, Emotional Disturbance, Hearing Impairment, Intellectual Disability, Multiple Disabilities, Orthopedic Impairment, Other Health Impaired, Specific Learning Disability, Speech or Language Impairment, Traumatic Brain Injury, and Visual Impairment (IDEA, 2004). Among the aforementioned categories, the autism-related group -- Autism Spectrum Disorders (ASD) -- has become the fastest growing developmental disability, largely due to enhanced depth and breadth of symptomatic analysis accompanied by greater administrative awareness and improved data collection techniques. The most recent advances in disability diagnostics are reflected in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5, 2013). As a result, the diagnosed prevalence of autism in U.S. children increased by 119.4 percent from 2000 (1 in 150) to 2010 (1 in 68) ("Autism Society," n. d.). It is also important to note that some of the physical and mental 'disorders' that do not qualify a student under the IDEA act still need to be addressed in the general classroom environment, since affected individuals may be covered by the *Rehabilitation Act 1973,* protecting the right of handicapped individuals. Some of these conditions (including Attention Deficit Disorder) overlap with the ASD symptomatic.

Accordingly, the increased attention to ASD as a disability group was also accompanied by the growing research focused on potential links between developmental and learning aspects of ASD, with the new special education strategies specifically developed for those on the autism spectrum. While Harwell and Jackson (2008) note that "prior to 1937 there was no recognition of learning disabilities" (p. 2), the IDEA act explicitly defines learning disability as "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, speak, think, write, spell or to do mathematical calculations" (IDEA, 2004; Learning Disabilities Association of America, n.d). In this context, the problems experienced by those on the autism spectrum could be clearly linked to learning disabilities requiring special attention in classroom environment. Thus, considering the multifaceted nature of developmental disabilities in general and ASD in particular, the scope of support for children in the educational environment should extend from purely psychological counseling to special education and assistive/instructional technology support. Moreover, all aspects of support must be interleaved, with administrators, counselors, special education and instructional technology specialists working together to create an inclusive educational environment where no child with disability is truly 'left behind.'

The book, *Supporting the Education of Children with Autism Spectrum Disorders,* was conceived with such an integrated approach in mind, with an intention to help administrators, counselors and educators to create an all-embracing supportive environment, primarily, in the K-12 system. In this introductory chapter we outline the conceptual elements and techniques of integrated ASD support, with a special focus on instructional technology support as the author's special area of expertise. The focus on technology in this chapter is two-fold. First, it is becoming imperative to develop methodologies preparing counselors, special education teachers and technology facilitators to adapt and use rapidly

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