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Technology Tools for Students with Autism: Innovations that Enhance Independence and Learning

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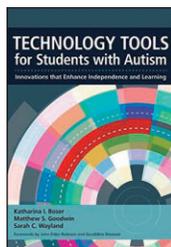
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Reviews

Technology Tools for Students with Autism: Innovations that Enhance Independence and Learning. *Edited by Katharina I. Boser, Matthew S. Goodwin, & Sarah C. Wayland.* Baltimore, MD: Paul H. Brookes Publishing, 2014. 335 pp. ISBN 9781598572629 (pbk).

Whether it is using robots to teach conversation skills, virtually simulating social interactions, or teaching semantics or facial expression recognition via interactive software, if it augments learning for students with Autism Spectrum Disorders (ASD), chances are it is explored in Katharina Boser, Matthew Goodwin, and Sarah Wayland's *Technology Tools for Students with Autism: Innovations that Enhance Independence and Learning.* Doctors Boser and Goodwin are the chair and vice-chair respectively of the Innovative Technology for Autism (ITA) committee for Autism Speaks, while Dr. Wayland is a researcher/educator in language and social skills development. The second of two forewords promises readers a book that is applicable to people with ASD across their life span and the parents, educators, and advocates who serve them. The book emerged from the human computer interaction workshops and universal design for learning (UDL) advocacy work of Boser and Goodwin's ITA committee. The book's seventeen chapters fall into seven sections according to the type of technology (e.g., language, data collection, social skills/emotion regulation) and/or the social context (e.g., classroom, teacher training, workplace) where the tool is used. The first section of the book provides an overview of state/federal policies, research, and implementation support.

The editors have three goals. First they seek interdisciplinary approaches to technological innovation for persons with ADS. Second, they designed a book that would encourage teachers/clinicians to collaborate with technology designers/computer scientists. Finally, they sought to include people with ASD in the creation of the book. Additionally, the editors argue there is a dearth of literature on technological interventions for individuals with ASD, especially empirical studies that document long-term efficacy as well as therapeutic/learning benefits. Goodwin (2008) specifically has previously argued for portable in-home computerized educational and self-management

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tools for review-board screened families of persons with ASD to make more accurate assessments of individuals with ASD who, sometimes disoriented by a visit to a clinician's office, may not exhibit prototypical ASD behaviour. Assessing prototypical behaviours in home and school environments via mobile tools will, Goodwin (2008) argues, manifest in better treatments and supports. Such tools are featured in Chapter 13, "Tools to Support Simplified Capture of Activities in Natural Environments," in Section V, "Data-Collection Tools," a section that Goodwin writes the introduction for.

The editors succeed in their goal of featuring interdisciplinary perspectives. For instance, the research of a team led by internationally (and BAFTA) awarded clinical ASD researcher Dr. Simon Baron-Cohen (see Chapter 9, "Using New Technology to Teach Emotion Recognition to Children with Autism Spectrum Disorders") appears along with the research of a team including technology industry leader Charlotte Safos. Safos is the vice president and COO of AnthroTronix, an advanced interface technology specializing in robotics control systems, wearable computing, and simulation control systems (see Chapter 5, "Using Therapeutic Robots to Teach Students with Autism in the Classroom").

The editors' second goal of spurring increased collaborations across the teacher/clinician and designer/computer scientist divide with this work is commendable. The above-referenced Chapter Five is also an excellent example of this type of research with a team featuring four robotics/technology experts (including a neuroscientist and a design engineer), a developmental psychologist, and a clinical professor of pediatrics. Similar to Chapter Five is Chapter Seventeen, "Using Mobile Technologies to Support Students in Work-Transition Programs," presented by a research team including two professors, a graduate student, a mobile applications developer, and a technology company CEO. However, private and public sector partnerships such as these can face significant challenges, such as competing intellectual property interests, market demand competing with personal research interest, and an incongruence of resources (Fiaz & Naiding, 2012). This book could further advance the editors' stated goal of fostering such collaborations by presenting a case study of a successful public-private sector team collaboration that is analyzed for how the team overcame the above-stated, as well as other, challenges.

The editorial team's final goal to include persons with ASD in the book could be strengthened. The introductory material before the books' seventeen chapters include a foreword by John Elder Robinson (2007), an engineer and author of the *New York Times* bestselling ASD memoir *Look Me in the Eye*, about how technology enriched his learning process as an engineer. There is also a perspective piece by special education professor Dr. Stephen Shore, who himself is on the spectrum, on how computers and technology allowed him to learn while easing his social isolation and anxiety. These pieces underscore how technology, in addition to being about education and development, can be a lifeline for the many individuals with ASD who feel stranded in a bewildering social morass. Beyond these two pieces, the voices of ASD are more often represented in the chapters by parents/teachers (e.g., representing their children's/students' feedback) and researchers (e.g., selecting from the comments made by study participants). One way to increase the direct expression by ASD individuals in the

book, if such individuals do not self-present as chapter contributors, would be to have them provide the introductory/orienting comments for each of the seven sections of the book that currently are written by the editors.

Academic readers of this book would include those in communication technology, communication education, and special educators specializing in communication and social skills development. Beyond academia, computer and communication technologists/scientists, especially those working in the research and development of assistive and adaptive technology, will find the seeds for future innovations (and perhaps partnerships) suggested by the tools/research in this book. In short, the editors make significant progress in striving for the goals stated at the outset of their book. Their efforts represent the reinvigoration of an important conversation, though it is by no means the final word on the subject.

References

Fiaz, Muhammad, & Naiding, Yang. (2012). Exploring the barriers to R&D collaborations: A challenge for industry and faculty for sustainable U-I collaboration growth. *International Journal of U- & E-Service, Science & Technology*, 5(2), 1–15.

Goodwin, Matthew S. (2008). Enhancing and accelerating the pace of autism research and treatment: The promise of developing innovative technology. *Focus on Autism and Other Developmental Disabilities*, 23, 125–128.

Robinson, John Elder. (2007). *Look me in the eye.* New York, NY: Three Rivers Press.

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