

THIRD EDITION

ASSISTIVE TECHNOLOGY IN SPECIAL EDUCATION

Resources to Support Literacy, Communication, and Learning Differences



- The only comprehensive listing of assistive technology tools and devices for special education
- Includes reviews of the top assistive technology tools and guidance on how to implement them at home and at school

JOAN L. GREEN

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- the many colleagues who share my passion for using technologies to help people with disabilities and devote their professional lives to producing technologies or sharing their knowledge with others.

NOTES ON THE THIRD EDITION



As I wrote this third edition, I was often asked, “Why write another edition of this book when the content will become instantly obsolete?” Although it is true that technology is constantly in a state of motion, there are many reasons why I dedicated many hours toward this book update. Here are a few:

- **People need help.** Many families and educational professionals are unable to keep up with technological changes and are realizing that they don’t even know where to begin to figure out appropriate affordable solutions.
- **Prior solutions may no longer work.** It’s only been 4 years since I wrote the second edition of this book, but quite a lot has changed! Unfortunately, many high-quality apps are no longer available. Older devices and apps, which worked well in the past, may no longer work on new operating systems. Individuals who have special needs or who support others often find themselves seeking new solutions.
- **Many features that were costly in the past are now free and readily available.** Quite a few products that I featured in prior versions of this book are now included on the devices we already own, but people may not know they exist or think to use them.
- **There is too much to do in too little time.** Educational funding cuts and health reimbursement woes have made it increasingly difficult for families to obtain help from qualified specialists. Families

are often the ones who need to take the initiative to explore options for their children. My hope is that this book will help families as well as professionals save time when searching for workable solutions.

- **Technology has improved.** Many apps, devices, and online resources have withstood the test of time and have dramatically improved over the years. With a bit of help getting started, the user experience is generally more positive and helpful than in the past.
- **More online support is available.** It is now much easier for families and educators to learn from others in similar situations. Video tutorials that speed up the learning curve are readily available online, and families, educators, and product developers are connected online and support each other once they know where to look.

It's hard to learn more about features and apps you may not even realize exist. My mission is to continue to expose readers to state-of-the-art, affordable, effective, research-based solutions that can improve the quality of life of people with communication, literacy, learning, or cognitive challenges. These are exciting times, as our society continues to experience monumental changes in the many ways technology can help people with disabilities.

Unfortunately, with the good comes the bad. The negative consequences of technology's use are all over the media: excessive screen time can cause problems; Internet access can be dangerous; technology addiction can ruin lives; brain function may be affected. We need to be wise consumers and maximize the benefits of technology while minimizing the harm that it can cause. It's all about how we use technology—and safety comes first. We need to protect those we love from the harm technology can cause while exposing them to the potential benefits.

Many families realize that there is much to learn, and they may find it difficult to access appropriate information that is not too technical or overwhelming. Speech-language pathologists, occupational therapists, tutors, special education teachers, administrators, and family members have increasingly embraced the concept of using technology and often have access to mobile devices, but many may find it difficult to keep up with changes. In my experience, proactive families are often frustrated and left on their own to figure out how technology can be used effectively to maximize the benefits to their loved ones of all ages at home.

Please use the resources presented in this book as a starting point from which to learn more. Check out the organizations, bloggers, app developers, vendors, and websites listed. This guide is not intended to prescribe

assessment or treatment protocols for students. The information should not be used to replace professional evaluation, collaboration, and services.

Hopefully, this guide will speed up the learning curve to help professionals as well as family members identify helpful ways to zero in on the tools and resources they need. Skilled intervention is needed for students who struggle to communicate, read, write, and learn. Those who decide to integrate technology to improve the outcomes of education, therapy, and parenting efforts must expect to invest time and effort into exploring and trying the resources to learn which ones are best for their situations.

Please keep in mind that, when providing direct services in my private speech therapy practice, I use many strategies and approaches that do not involve technology. Although this book is primarily focused on technology tools, skilled therapists and teachers need to keep in mind that technology does not replace their expertise. Tools do not replace people, but they can be very engaging and fun, as well as produce amazing outcomes if used judiciously.

If you would like to continue to receive guidance from me on my top picks for technologies to help students, please connect with me through my website at <https://www.innovativespeech.com>. I regularly post information on my website and a variety of social media sites about upcoming workshops and online mini video courses that you can watch at a time and place that suite your learning and lifestyle. Feel free to e-mail me at Joan@innovativespeech.com or call 301-602-2899 or 1-800-IST-2550 if you would like to discuss your situation and how I might be able to help you.

GETTING STARTED WITH ASSISTIVE TECHNOLOGY

IMPROVING TECHNOLOGIES OFFER HOPE

Do you own a laptop, tablet, or smartphone? If you said “yes,” you are in good company. Access to computers and online resources has become an integral part of our daily lives. According to the Pew Research Center (2018), 95% of American adults own a cell phone of some kind. In addition, about 80% own a desktop or laptop computer, roughly half own a tablet computer, and 20% own an e-reader. The great majority of households have high-speed Internet access, and schools are embracing technologies more than in the past. Features that used to cost many hundreds of dollars, such as touchscreens and reading and writing supports like text-to-speech and dictation, are now features included in the phones, tablets, computers, and browsers we already use.

As the affordability and availability of educational and personal technology tools increase, so does the potential for greater success and independence for people who have communication, learning, and cognitive challenges. Teachers, therapists, and families need to embrace and adapt to technology to empower individuals with special needs. Unfortunately, many of the people who could benefit the most from these recent advances remain in paper-based worlds—receiving services that do not take advantage of effective new technology tools to support literacy, communication, and learning. Many individuals with disabilities are never exposed to new affordable products that could help them succeed in life. As our society

becomes increasingly dependent on technologies for communication and information access, people with disabilities are experiencing an ever-increasing digital divide. Everyone deserves to be exposed to mainstream, as well as specialized, easy-to-use resources with which he or she can accomplish everyday tasks with increased ease and efficiency. The world of technology has become much more affordable—many state-of-the-art resources are now readily available and, when used properly, can have a profound positive impact on the lives of individuals with autism spectrum disorders (ASD), learning differences, communication challenges, cognitive deficits, and developmental disabilities.

WHAT IS ASSISTIVE TECHNOLOGY?

Assistive technology devices (also referred to as *adaptive technology*) refer to any “item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities” (Assistive Technology Act of 2004, § 3.4). Assistive technologies can remove barriers to independence and success, especially when used in the individual’s natural setting, such as the home, school, or workplace. These tools can reduce the burden of difficult skills and enhance independence during daily life at school, work, and home, and in the community.

In this book, I highlight a wide range of technologies, many more than what typically come to mind for most of us when we hear the words *assistive technology*. I truly believe that the apps, features, websites, and additional information included in this book, when used with an individual with special needs, may allow that individual to achieve results that he or she could not have gained without them. It is true that most individuals will be able to improve outcomes and maximize success with the help of many of the cutting-edge mobile features and apps I have carefully selected. However, it is also true that individuals with special needs who learn and communicate differently may *require* them to maximize their true potential and happiness.

HELPFUL TECHNOLOGIES ALL AROUND US

Technology has slowly crept into our lives, and it is here to stay, for better or for worse. Many families, educators, and therapists tried early on to use new devices and products, only to become frustrated and overwhelmed. Many efforts were abandoned. Thankfully, computers and mobile devices, along with their features and associated apps, have contin-

ued to improve and have become more reliable, user-friendly, and affordable. Although considerable concern remains over how to use technology safely to minimize the negative consequences for our children, the use of assistive technology is gaining increased acceptance in the delivery of services in school, therapy practices, and rehabilitation centers.

Schools, healthcare systems, and vocational settings are struggling to balance the delivery of quality services with increasing costs and regulations. With the use of the assistive technologies highlighted in this guide, readers become empowered with the ability to contain costs, adhere to stringent regulations, and effectively help people of all ages with a wide range of communication, learning, and cognitive challenges. The key is to make a good match between the individual and the technology being used.

The worlds of assistive technology, educational technology, and mainstream technology continue to merge. Change is happening so fast that it is difficult to stay on top of the many new ways technology can be used to help people of all ages who have subtle or debilitating challenges. This guide will introduce you to, or expand your knowledge of, the exciting world of assistive technology—one that includes many products and approaches that you may not know exist, as well as many you may be familiar with but have not thought to use, to help improve speaking, reading, writing, listening, thinking, memory, or learning.

TAKING THE FIRST STEPS

Whether you are a parent of a child with communication, learning, or attention challenges; a teacher or therapist trying to offer the best help you can for those to whom you provide services; or someone exploring this topic to help yourself, the keys to success in using this guide are the same:

- Start gradually.
- Focus on the sections within chapters that will meet your immediate needs first.
- Start to network with others in similar situations by joining online support and discussion groups.
- Explore the websites of products that seem relevant to your situation to make sure that you learn about the most recent specifications, features, and prices of the products.
- Try out the many free resources and online sources for support that may help.
- Be creative and try new things. There is no one correct way to proceed.

SEEKING PROFESSIONAL GUIDANCE

This book does not replace the need for skilled professional intervention. Professionals such as speech-language pathologists are trained to help people with communication and cognitive challenges; laptops, tablets, and smartphones are merely tools to further that help. Users of the technology need to remain focused on their goals and work to achieve the desired outcomes. Once a good match with the user and product is made, the selected resource should be configured or used in the best way to maximize progress toward goals. Some activities may be enjoyable but aren't effective toward learning new skills. People learn in different ways and are helped by different strategies and types of assistance. One product can be used in many ways. Figuring out the most effective approach to use the technology is critical for success. Also, it is important to keep in mind that the most recent tools aren't always the best. Many years of research have been devoted to the field of assistive technology, and some of the dedicated communication systems and products that have been available for a long time may be better than newer products developed for mobile technologies. There are pros and cons to most products, and the key is figuring out the best fit for your situation.

HOW TO GET HELP

Once you select the device, application, browser, feature, or suggested website that is potentially helpful for you in your setting, spend some time exploring online resources to connect with others who may be in similar situations, or search online for reviews or video tutorials. Bloggers, Facebook groups, and review sites are often very helpful. Be careful, however, about giving too much credibility to one disgruntled user who leaves a bad review. It's hard to know the true reason that someone had a bad experience. YouTube (<https://www.youtube.com>) also often has helpful videos to watch, and I've shared some of my favorite YouTube channels and videos throughout the book. Unfortunately, with the advent of less expensive mainstream mobile solutions, as opposed to more expensive software downloads or "special" expensive equipment, it can be difficult to speak to customer support when there are problems. A visit to the Apple Store to ask about a non-Apple feature or an app on an iPad will undoubtedly end in frustration.

One goal of this book is to help you find resources so that you can connect online and learn from others in similar situations who may have already found workable solutions to the issues you face. For every resource

highlighted in this book, there are many that I chose not to include. This curated list will hopefully minimize your angst and propel you forward with positive experiences. In addition, I have a selection of online video courses available for the public so that you will be able to receive even more helpful information and guidance tailored to the needs of families and professionals who want to help an individual with communication, cognitive, literacy, and learning challenges.

WHAT SOLUTION IS “BEST”?

I frequently get asked the following types of questions:

- Which device is best to use to help my son with dyslexia?
- What should I try if my daughter is 3 and hasn't started talking yet?
- Which technologies are best to support my son who is disorganized and about to start his first year of college?
- My student with ASD and who is nonverbal doesn't appear to be motivated to communicate. What app should I try?
- Which augmentative and alternative communication (AAC) app or device is most effective?

Successful solutions require careful thought as well as trial and error. I have attempted to list my top picks in a variety of categories to help you in the quest for the “best” solution for your set of circumstances. Please keep in mind that technologies are just tools that can be used to assist in the education and intervention process. Every person has a different set of strengths, weaknesses, interests, and motivations, as well as unique environments, tasks, and people helping him or her. You also will undoubtedly mix a bit of your own unique personality into the process as you try to help others. There are often several paths to success.

I have done my best to include updated suggestions and helpful resources for support and information throughout this guide so that you can benefit from all that I have learned. The final chapter of this book includes a list of the resources that I have relied on the most as I navigate the “best” cutting-edge technology tools to share with families, colleagues, and schools.