



# Evidence-Based Interventions for Children with Disabilities

SPECIAL EDUCATION (SPED)





BY KIMBERLEY SORENSON

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**IN 2004, THE FEDERAL GOVERNMENT PASSED THE INDIVIDUALS WITH DISABILITIES ACT (IDEA).** This act requires school districts to provide a free education that meets the needs of all children, including those with physical, intellectual, and/or emotional disabilities. When those disabilities threaten the child's ability to learn, school districts are required to offer free **special education (SPED)** services. Children are eligible for these services from birth through age 21. The **Every Student Succeeds Act (ESSA)** of 2015 continued the legacy of IDEA.

Disability is a natural part of the human experience and in no way diminishes the right of individuals to participate in or contribute to society. Improving educational results for children with disabilities is an essential element of our national policy of ensuring equality of opportunity, full participation, independent living, and economic self-sufficiency for individuals with disabilities.

—Every Student Succeeds Act (ESSA)

Every state is required to have a Child Find office, which attempts to identify and to serve young children who may have a developmental delay or disability. Families and/or their physicians can also request a free evaluation from their school district for their children, beginning at age three. Typical disabilities include Autism Spectrum Disorder (ASD), emotional difficulties, hearing and/or visual impairments, intellectual disabilities; motor impairment; specific learning disability (dyslexia and/or dyscalculia); and speech or language impairment.



Once the school district has determined that a child needs SPED services, the district meets with parents to write an Individual Education Plan (IEP). The IEP explains the child's disability; defines specific, achievable learning goals; and lists the accommodations and services the child and family need to achieve those goals. Since children are most likely to make progress with the help and example of their peers, districts are instructed to place students receiving SPED services in the "Least Restrictive Environment" that is practical. Other terms for this are inclusion and (previously) mainstreaming.



SPED is not a one-size-fits-all classification. Some children need SPED services because their brains don't function as quickly or efficiently as their peers'. Others have normal intelligence but struggle with physical, emotional, or specific cognitive deficits. Surely the supports they require will look very different, right?

Well, yes and no. While some disabilities require specific interventions—learning braille won't help children wrestling with emotional difficulties—it's also true that a handful of evidence-based interventions help nearly all children with disabilities. These interventions help children become more productive learners by reducing the demands on their attention.

## A Simple, Predictable Classroom Environment

Predictable simplicity is enormously helpful for children who are struggling to manage a disability. They have so many things they are juggling that any unnecessary novelty they have to process and integrate overwhelms their cognitive capacity. Simplifying the learning environment works wonders. Remove any unnecessary posters, decorative items, and stimulating colors from your classroom. You don't want to give students a reason to consider anything but what you are trying to teach them. When students must intentionally focus on verbal cues and instruction, it is helpful to turn off music that doesn't have a specific instructional purpose. It may help take the edge off your boredom as you go over the same skill you've taught a hundred times, but it's a distraction for children who are fighting to make sense of new material (Fisher, et al., 2014; Brophy & Good, 1986).

## Clear and Focused Instruction

It's easy to confuse the quantity of time, care, and craft supplies we lavish on a lesson, or the raptness with which students listen to a personal story, with instructional effectiveness. Student interest doesn't necessarily signal student learning. The business world uses the phrase "minimal viable product" to help focus its efforts on what matters most. As you plan your lessons, put every activity to the clarity test: Will this direct my students to learning and practicing the target skill? Or is it something that is interesting and somehow related, but not actually part of the "minimal viable product?" Have fun with all of your students, but keep your instruction time as clear, simple, and predictable as possible (Allinder, 1994).

## Differentiated Instruction

Though students with special needs enjoy interacting with their peers during collaborative, open-ended activities, they learn the most from explicit, slow-paced, and repetitive small-group instruction. Consider dividing your instruction time into three parts:

- **inclusive whole-class instruction;**
- **a period of practice and consolidation that varies according to the child's needs;**
- **and final, whole-group reflection.**

Use the practice period to re-teach the concept as explicitly and clearly as possible to your students with diverse learning needs, while middle-of-the road students practice and correct the new skill in pairs, and advanced students apply the skill to something they are learning in a different part of the curriculum. How can you find the time to plan for three kinds of practice? By simplifying the mode of your presentation and relying on well-understood classroom routines (Manship et al., 2016; Chard et al., 2002).

## Routines and Behavioral Accommodations

Many candidates with special needs have poor executive function skills. These children have difficulty organizing, planning, and accommodating change efficiently. Create and explicitly teach classroom rules and routines that help children understand what they are supposed to do and how to do it. Then practice! Whether it's learning strategies for handling waiting or knowing what to do when they need help, children take pride in knowing what they are supposed to do and then doing it. This is particularly helpful for children who have difficulty managing their emotions. Help them identify their triggers, then work together to find strategies for managing overwhelming feelings, like a quiet bottle or a pass to go out in the hall and get a drink (Diamond & Lee, 2011; Albright et al., 2011).



## Mastering Foundational Skills

Removing distractions and teaching children strategies for preventing costly melt-downs is a good beginning. But it's not enough to promote academic success. Key academic domains like reading and math depend on a small number of foundational skills that children have mastered to the point of automaticity. The importance of these foundational skills was long overlooked, since most children can pick them up incidentally. Scientists now know that about 30 percent of children cannot learn these skills unless they are taught explicitly. Once the skills are learned, struggling children need to practice them many, many more times than their peers before the skills become automatic.

## Specific Learning Disorder: A Breakdown in Automaticity

Many of these children suffer from Specific Learning Disorder (i.e. dyslexia and/or dyscalculia). The name Specific Learning Disorder is meant to suggest that the children's disability does not apply to all learning, but rather to a specific skill—how quickly and easily the brain can map sound (phonological awareness) or quantity (numeracy) to a given letter or numeral. These children are just as capable of learning as their peers. But their brains are wired in a way that makes retrieving the information they have learned much more effortful. Whereas many learners can learn the meaning, pronunciation, and spelling of a new word so well that they can automatically retrieve that information after a single trial, dyslexic children may need to practice hundreds or even thousands of times before their brains learn automaticity. In the meantime, the effort that these children have to make to remember interferes with their ability to master more advanced skills (Ehri et al. 2001; Merkley & Ansari, 2016; Ehri, 2014).

## Assessment, Practice, Feedback

The key to helping children with diverse needs learn is simple: Assess their readiness, ensure that the foundational skills of phonological awareness and numeracy are taught clearly and explicitly, and then provide the hundreds of practice trials students need to achieve automaticity. That is the great gift of computer-assisted adaptive instruction like Waterford Early Learning. Every child begins where they are, is taught clearly and explicitly, and then is offered sufficient meaningful practice with immediate, corrective feedback. This happens privately, so that students don't need to be embarrassed by the number of trials they require, and are protected from outside distractions. Moreover, adaptive instruction is recursive, building on itself, so as to provide many, many trials of key skills in a variety of contexts. The use of an independent program, such as Waterford, also provides teachers with the time and flexibility to create small groups of students for differentiated learning. The use of these best practices can benefit all learners.



## WATERFORD EARLY LEARNING HELPING *EVERY* STUDENT GROW

Waterford's adaptive learning software personalizes each child's learning experience and enables self-directed learning.

- Individualized instruction
- Multimodal learning environment
- Research-proven results

WATERFORD EARLY LEARNING is endorsed by



the Council of Administrators of Special Education for reading curriculum meeting CASE's strict requirements for efficacy, design and quality.



the International Board of Credentialing and Continuing Education Standards as a Certified Autism Resource.

## ADDITIONAL RECOMMENDED RESOURCES

- IDEAS That Work <https://ccrs.osepideasthatwork.org/> One stop shopping for resources and organizations to support the teachers, counselors, and families of SPED children.
- The IRIS Center. (2010). *Differentiated instruction: Maximizing the learning of all students*. Retrieved from <https://iris.peabody.vanderbilt.edu/module/di/>. The IRIS Center also offers instructional modules for teachers of children with visual disabilities, Autism Spectrum Disorder, and learning and social disabilities at <https://iris.peabody.vanderbilt.edu/iris-resource-locator/>.
- *Teaching Students with Dyslexia, Dysgraphia, OWL LD, and Dyscalculia*, by Virginia Berninger & Beverly Wolf (Paul H. Brookes, 2015).
- *The Essentials: Supporting Young Children with Disabilities in the Classroom*, by Pamela Brillante (NAEYC Books, 2017).

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## GLOSSARY OF SPED TERMS

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**Automaticity** The ability to retrieve information quickly, accurately, and without conscious effort.

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**Behavior Management** Classroom rules and procedures that help children understand and internalize the behaviors necessary for productive learning and socializing. Children are most likely to adhere to these expectations when they have a voice in creating them; when rules and procedures are simply and explicitly taught; and when they are supported by repeated practice and prompts.

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**BIP (Behavior Intervention Plan)** A written plan that is part of the IEP for students who struggle to manage disruptive behavior. The BIP specifies prevention strategies and replacement behaviors (“when you feel angry, hand me your angry card and take a break in the reading area”) for 1-3 target behaviors in and out of the classroom.

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**Differentiated Instruction** The process that individual teachers use to adapt the target content, instructional activities, and final assessment to the needs of a variety of students: average learners, English language learners, SPED students, and the gifted and talented.

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**Disability** School districts are responsible for diagnosing disabilities that may interfere with learning, sometimes with the help of medical professionals. Families have the right to ask for such an assessment. Disabilities include Autism Spectrum Disorder, emotional disturbance, hearing and/or visual impairments, intellectual disabilities; orthopedic impairment; specific learning disability (dyslexia and/or dyscalculia); and speech or language impairment.

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**Dyscalculia** See Specific Learning Disorder

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**Dyslexia** See Specific Learning Disorder

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**Formative assessments** Informal assessments given to children during instruction to determine the extent of each child’s learning of the target skill. Teachers use the results to tailor their instruction to better meet the needs of individual students.

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**Inclusion** Children who are eligible for SPED services do best when they spend as much time as possible with normally developing children. The purpose of inclusion is to allow students with special needs to work in classrooms alongside their peers. This practice can take many different forms, but the principle idea is that everyone learns better together.

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**IDEA (Individuals with Disabilities Act of 2004)** Requires schools to provide free and appropriate educational services to children with diagnosed disabilities. These services are detailed in IEPs.

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**IEP (Individual Education Plan)** Individualized plans for students with disabilities. Written by the child’s school district, the IEP records each student’s level of development and learning goals, and describes the accommodations and services the district is contractually obligated to provide to help the child accomplish those goals.

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<b>ID (Intellectual Disability)</b>	Children who have difficulty learning.
<b>Learning Profile</b>	The myth that instruction should be aligned with children’s preferred learning styles. Research has repeatedly shown that such accommodations decrease the child’s ability to learn.
<b>LRE (Least Restrictive Environment)</b>	The principle of including children eligible for SPED services in normal classrooms insofar as it is practical. See “Inclusion.”
<b>RtI (Response to Intervention)</b>	Response to Intervention: an instructional framework that provides three “tiers” or levels of instruction, depending on the results of formative and/or summative assessments. If students are having difficulty mastering the target skill, they are assigned to “Tier 2” small group interventions. Tier 2 instruction is typically explicit, and offers more opportunities for students to practice the target skills. When this extra support is not enough, children are assigned to intensive Tier 3 instruction.
<b>SPED (Special Education)</b>	The special education services school districts are required to provide for children whose disabilities compromise their education to the extent that they require “specially designed instruction.”
<b>Specific Learning Disorder</b>	Learning disabilities that are linked to a specific learning deficit, rather than the child’s overall intelligence. Children who have difficulty mapping phonemes (letter sounds) to letters and letter strings suffer from the SLD of dyslexia. Children who have difficulty mapping quantities to numerals suffer from the SLD called dyscalculia. Both of these conditions can be partially overcome with the help of intensive interventions.
<b>Summative Assessments</b>	Assessments, including tests, projects, and reports, given at the end of a chapter or unit to determine each child’s learning.
<b>UDL (Universal Design for Learning)</b>	Curriculum design that includes a variety of instructional and assessment strategies and resources to help teachers adjust their instruction and assessments to meet the varied needs of their students.
<b>ZPD (Zone of proximal development)</b>	First described by the Russian psychologist Lev Vygotsky, the ZPD describes the skills and concepts that a learner has not yet independently mastered, but which are within his or her grasp with the help of a more experienced mentor. The most effective teaching and learning occur in this zone.

