COMPREHENSIVE LITERACY FOR ALL

Teaching Students with Significant Disabilities to Read and Write

Karen A. Erickson
David A. Koppenhaver

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by

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Foreword

Thirty years ago, I would ask graduate students and workshop participants consisting of speech-language clinicians and teachers of children with significant disabilities (primarily children for whom speech was not a major means of communication), "How many of you believe the persons for whom you are providing services can learn to read and write?" Reluctantly, about 20%–30% would raise their hands, and I had the feeling the majority of the others were unable to commit themselves. When I pursued why the attendees thought nonspeaking children with significant disabilities could not learn to read, they would usually respond with, "Speech is a prerequisite to reading." Pushing the issue further for evidence of their belief, it appeared to hinge mostly on little more than a hunch or something they had heard someone say or read in an outdated textbook that learning to read could not happen without speech. How is it, I would ask, that children who are deaf, without oral language and communicate primarily with sign language, learn to read? Have we forgotten that there is evidence of language comprehension that allows us to formulate a means of communicating, including reading and writing? "Yes, but and but and but," would be the usual responses.

How then does one break this faulty thinking and practice? One has to look for the evidence that people with significant disabilities can learn to read and write; they can become literate. Therein was the challenge that was put before some of us who believed that no one is too anything to learn to read and write—not too intellectually, emotionally, neurologically, or physically challenged to learn to read and write; to become literate (Yoder, 2001). Or those of us who agree with the writer Pat Conroy (1995), who said, "One can do anything, anything at all, if provided with a passionate and gifted teacher" (p. 380).

In 1989, David Koppenhaver and I began "dreaming things that never were, and said 'why not?'" (Shaw, 1921, Part 1, Act 1). We established a literacy center that initially focused on teaching children for whom speech was not a primary means of communication to read and write. From the initial grant from the Kate B. Reynolds Foundation, the center has evolved, providing evidence-based research on effective ways to teach people with significant disabilities to read and write. This book you are about to read will challenge you to provide a reading and writing program for all people with significant disabilities, and we believe, when you finish studying the information the book provides, you will raise your hand in belief that people with significant disabilities can learn to read and write, and you will endorse our collective belief statement:

> It is our collective belief and practice that all individuals regardless of ability or disability have the right to an opportunity to learn to read and write in order to increase and enhance their communicative competence, their educational opportunities for vocational success, self-empowerment capabilities, and independence.
>
> (Yoder, Erickson, & Koppenhaver [as cited in Yoder, 2001])

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The principles, strategies, examples, and insights in this book are the result of several decades spent observing and interacting with students of all ages with significant disabilities, their families, educators, paraprofessionals, and related services professionals in classrooms, summer camps, homes, and community settings. It has been a true privilege to learn from and with all of you.

Many thanks to colleagues past and present at the Center for Literacy and Disability Studies who coauthored many of the studies referenced in this work, asked important questions, sought practical solutions, and continue to generate new understandings, new practices, and new directions.

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Karen thanks all of her family and friends for understanding when there is just one more deadline to meet before she is ready to enjoy her time with them.

Finally, for all of you who have been asking us for years whether we were done, let us say in the immortal words of Lane Smith, "It's a book!"

Introduction

More than 25 years ago, we (Dave and Karen) sat down for the first time to talk about our mutual interest in teaching students with significant disabilities to read and write. We worked with colleagues to first build and then continue to inform a field that was very new. Today, it is common for parents, educators, clinicians, and researchers to talk regularly about literacy for students with significant disabilities, but that was not the case when we met in 1991. We both feel lucky to have found another colleague who is willing to grapple with difficult questions while working to find solutions for today and even better solutions for tomorrow. This book is our collaborative effort to record today's solutions.

WHAT THIS BOOK IS AND IS NOT

We have been fortunate in our careers to have learned from and worked with some remarkably talented students, families, educators, clinicians, and professors. The two people who have influenced our careers and our views of literacy the most have been David Yoder and Jim Cunningham, each a professor emeritus at the University of North Carolina at Chapel Hill. David once told us that his interest in literacy in individuals with significant disabilities began in the mid-1980s, when a young man with cerebral palsy indicated by pointing to symbols on a communication board that he desperately wished to be taught how to read and write. Jim used to keep us grounded in the practical as graduate students by separating the theoretical from the practical, and when potential solutions became too complex or unrealistic for classroom practice, he reminded us, "Even Horace Mann and John Dewey team teaching couldn't make that work in a classroom."

These key ideas from our mentors are what ground our thinking in writing this book. We are trying to help families, educators, and clinicians teach children with significant disabilities to read and write, and we are attempting to keep the ideas as practical as possible. We are sharing what has worked for us; what has worked for families, educators, and clinicians; and most important, what has worked for children with significant disabilities we have observed or worked with over the years.

We have had to make important decisions as authors when addressing these two ideas. Throughout the book, we have referenced others' ideas when appropriate. For example, we begin each chapter with a review of the literature we find most relevant in guiding our thinking. We have made no attempt, however, to provide a comprehensive review of the literature. That would be more useful to researchers than to our target audiences of educators, clinicians (speech-language pathologists [SLPs], occupational therapists, and other related services providers), people studying to become educators and clinicians, and families.

Rather than attempt to provide comprehensive access to all of the possible ways of teaching various reading and writing skills, we have focused on what has worked best in our experience. We recognize that there are other effective methods

of instruction, but we have not yet found the need to draw on them in helping students with significant disabilities learn to read and write. We have focused on neither inclusive nor self-contained settings but rather on instructional strategies and resources that apply across settings. We think that students with disabilities, wherever they are placed, need to learn to read and write better and deserve to receive high-quality literacy instruction. In fact, if we successfully help them learn to read and write, perhaps they can advocate more effectively for education in the settings that best fit their own needs.

Finally, this is a book about literacy instruction, not technology-supported literacy instruction or methods of accommodation that theoretically alleviate the need to learn to read and write. Our goal is to help all students learn to read and write. Furthermore, the reality of today's schools is that some children and teachers are very well supported with every possible resource, and some are provided very little that is instructionally meaningful. We hope that whatever level of support and resources you may have, you will find that you can take advantage of the ideas, strategies, and resources found in this book and teach your students to read and write better.

WHAT LITERACY IS AND IS NOT

There are multiple literacies in wide currency these days. Digital literacy, computer literacy, media literacy, information literacy, cultural literacy, and political literacy are just a few that are studied and taught. We value these literacies, but in this book, we refer to and attempt to teach just one kind of literacy to students with significant disabilities—print literacy, which is reading and writing traditional orthography, or alphabet letters, for meaningful purposes.

We acknowledge that this is a narrow view of literacy, but we also see it as essential to the successful instruction of students with significant disabilities. This is the kind of literacy that will enable children who cannot talk to say exactly what is on their minds to anyone who can either read or hear. This is the kind of literacy that convinces school systems to move students into inclusive classrooms and puts teeth into transition programs. This is the kind of literacy that increases employment options, makes social media tools accessible, and enables individuals with significant disabilities to have greater choices over medical procedures, therapies, and other important life decisions.

We find that other literacies distract us from assisting children with significant disabilities to read and write with increasing independence and meaning for wider purposes. For example, it is common practice to symbolate texts for many students with significant disabilities. Various technologies make these symbols easy to create and reproduce. We think, and research supports the idea, symbols are wonderfully supportive in face-to-face communication, but if you want to teach children to read and write, then you must use traditional orthography (Erickson, Hatch, & Clendon, 2010). We have met many individuals with complex communication needs who are highly skilled in the use of low- and high-tech augmentative and alternative communication systems but are not very skilled in reading or writing print. For example, Alan McGregor expressed his frustration insightfully by telling us years ago that he just hoped to be literate enough to read his own gravestone when he died.

This narrow focus on literacy as print-based reading and writing is not intended to exclude students. Rather, it is intended to ensure that all students are provided with

an opportunity to learn to read and contribute to the print that surrounds us each and every day. When definitions of literacy include idiosyncratic, nonconventional, and graphic-symbol-related behaviors, students with significant disabilities are in danger of being denied meaningful, intensive, ongoing opportunities to develop skills in print-based reading and writing because the skills and behaviors they are already demonstrating are viewed as sufficient.

WHO CAN LEARN TO READ AND WRITE?

We believe that all children can learn to read and write. Not just children in inclusive classrooms and not just those in schools with healthy finances. Not just those who can see or hear or walk or talk or who have intelligence perceived to be at an acceptable level for learning. As such, we are not excluding any students with significant disabilities from the focus of this book.

The students we have taught, include, and encourage you to teach throughout this book are students with severe developmental disabilities, including students with intellectual disabilities, physical disabilities, language impairments, communication impairments, sensory impairments, and the most complex combinations of these things. It includes students who are not yet communicating in ways that others understand. It includes those who have learned to read or write some but could benefit from learning to read and write better. In this book, we share specific approaches that have worked with students with autism spectrum disorder (ASD), Down syndrome, Rett syndrome, cerebral palsy, fragile X syndrome, Angelman syndrome, Williams syndrome, deafblindness, behavior disorders, traumatic brain injury, and myriad other (dis)abilities. We refer to all of these students as students with significant disabilities throughout this book.

This book is intended for any adult who works with these students. We use the term *teacher* throughout, but we acknowledge the crucial role therapists, school staff, parents, and others play in comprehensive literacy instruction. For example, SLPs have a responsibility to play a role in the literacy programs of the students they serve (see the ASHA position statement available at https://www.asha.org/policy/ps2001-00104.htm). Teaching assistants, paraprofessionals, and other school staff are often assigned to work with children with significant disabilities during the school day. Parents and other caregivers are often the primary teacher for their children with significant disabilities or must supplement what their child receives at school because there simply is not enough time during the school day to meet all of their child's needs. Literacy instruction opportunities are not confined to the classroom, and the audience for this book extends beyond the classroom teacher as well.

We believe that students learn what they are taught, and we often have not taught them in ways that effectively result in successful reading and writing because of the complexities of their disabilities or our lack of understanding. We have visited many classrooms where students with significant disabilities are read to but where those same students are not provided opportunities to read and write print themselves. We have seen other classrooms where students are taught to recognize words in isolation but not how to use them in meaningful ways. We have met older teenagers and adults who know all of the letters of the alphabet, both upper- and lowercase, but do not know that uppercase *A* or *B* is the same letter as lowercase *a* or *b* or any other upper- and lowercase pairings. We have worked with adolescents who have been taught

letter–sound relationships in isolation and can produce a /t/ sound when shown the letter *T,* or can find the letter *D* when someone says a /d/ sound, but they cannot spell or write words in order to communicate their thoughts. We have been told that some students cannot learn phonics because they are visual learners, they are deaf, or they are too intellectually impaired.

We do not know how to teach all children with significant disabilities to read and write at a third-grade level by the end of third grade, as is required in many places in the United States. Yet, we know that individuals with dysarthric speech can communicate more clearly and quickly if they point to the first letter of each word they are trying to say (Hustad & Beukelman, 2002). We have watched individuals who can spell phonetically use spelling prediction systems to write more clearly. We have met young adults with ASD who could not read, write, or communicate independently as teenagers. We have seen them become adults who are employed in offices because they can read, follow written and verbal directions, and manage documents flawlessly. We have seen children with significant disabilities and their parents connect in new ways when they read and discuss books together. We have seen students who are deafblind change posture and affect, acquire voice output communication devices, and engage more joyfully in their interactions with their families, teachers, and peers when literacy activities were incorporated into their instructional days. We may not know how to teach all students with significant disabilities to read and write at a third-grade level, but we do know that any efforts to assist all students in learning to read and write better have led to important outcomes that have contributed positively to the quality of their lives.

We choose not to pretend that we can predetermine who can and cannot learn to read and write. We have learned that it is never too late to learn. Our mentor David Yoder did not learn to read until his aunt taught him in third grade, and one of us (Karen) struggled with reading throughout elementary school. Andrew Sheehan could not write coherent text until he was a young teenager but coauthored an article in a peer-reviewed journal a few years later (Sheehan & Sheehan, 2000). Don Johnston, whose company creates assistive technologies to support literacy learning, did not learn to read until his ninth-grade English teacher, Mrs. Tedesco, helped him (Johnston, 2009). They, and countless other individuals, learned because someone believed they were capable of learning despite their difficulties and provided them excellent instruction.

We believe that students with significant disabilities must receive highly effective instruction in order to learn to read and write. We have done our very best to describe how this might be achieved in practical ways. We hope this book helps you provide your children or students with the excellent literacy instruction they deserve and need.

A COMPREHENSIVE APPROACH

Throughout this text, we will refer to an approach to literacy instruction that we call *comprehensive* because it addresses each of the elements that is required for a student to learn to read with comprehension and to write to convey thinking (Erickson, 2017). This comprehensive approach stands in contrast to the reductionist or functional approaches to literacy that have dominated education for students with significant disabilities for decades. Whether students are just emerging in their understandings of reading, writing, and communication or working to further develop conventional

skills, comprehensive instruction takes time—2 or more hours per day—and a focus on the application and use of skills.

Comprehensive literacy instruction addresses emergent and conventional literacy skills. In the first part of this text, we present a comprehensive approach to emergent literacy instruction, which focuses on students who are developing the skills and understanding they will eventually use to read and write. In the second part, we describe the components of comprehensive, conventional reading and writing instruction for students who know the letters of the alphabet, understand that print carries meaning, and are interested and engaged when we read with them.

THE OVERALL STRUCTURE OF THE BOOK

This book is structured in four sections. Section I, Core Understandings (Chapters 1–2), emphasizes emergent literacy. We begin by arguing that all children can learn to read and write and introducing our instructional model in depth. Next, we describe the conditions that must be established for successful literacy learning. In Section II, Building a Foundation for Literacy (Chapters 3–5), we discuss specific emphases that must be combined to offer comprehensive emergent literacy instruction via shared and independent reading, writing, and alphabetic and phonological awareness. Section III, Learning to Read and Write (Chapters 6–10), emphasizes conventional reading and writing instruction. We first present a framework to organize instruction and then describe specific strategies to teach reading comprehension, self-directed reading, writing, and word identification (including decoding and spelling). Finally, Section IV, Implementation (Chapters 11–12), addresses a range of topics that must be considered when planning and delivering comprehensive emergent or conventional literacy instruction to children with significant disabilities. These topics include the effective use of assistive technology (AT), as well as how to organize and deliver instruction in various settings. In organizing this text, we made the decision to address topics such as word identification (Chapter 10) and AT (Chapter 11) at the end of the book because we find they are often overemphasized in the planning and delivery of instruction for students with significant disabilities. Certainly, reading requires the ability to decode and identify words, and writing requires the ability to spell words, but teaching students to read and spell words is pointless if it is not done as part of a comprehensive approach to instruction, one that recognizes that reading with comprehension and writing to convey meaning are the ultimate reasons for teaching decoding and spelling. Similarly, AT is important, if not critical, for many students with significant disabilities, but the best AT in the world is useless in the absence of meaningful reasons to use it. We believe that we must first have a clear set of instructional goals before considering which technologies might support students in achieving those goals.

Our intent in planning this text was to make sure that educators, families, and clinicians could find a starting place, whether they were trying to figure out how to get started with a student with the most complex multiple disabilities, move forward with a student who has acquired dozens of sight words but lacks comprehension, or expand the skill set of a student who can read text with comprehension but cannot write to express thoughts to others. We intentionally planned this text so that no student with significant disabilities is excluded from instruction that has the potential to build core skills in reading and writing over time. We leave it to those who attempt to implement the ideas in this book to determine whether we have fulfilled our intent.

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SECTION I

Core Understandings

CHAPTER 1

All Children Can Learn to Read and Write

A Theoretical Rationale

Chloe's mother is trying to read *Green Eggs and Ham* (Seuss, 1960) to her. Chloe is screeching, wriggling, and crying, which is something she often does during storybook reading. Her mother sits on the floor to read because Chloe struggles with such ferocity that she occasionally slips out of her mother's grasp, and her mother does not want her to fall. Chloe has been diagnosed with Rett syndrome. She can neither talk nor walk, her tiny fists are always in motion to and from her mouth, and professionals in several fields have told her parents that she has significant intellectual disabilities.

Only 3 months later, Chloe stares intently at the book as her mother reads and sings *The Wheels on the Bus* (Zelinsky, 1990). Her mother pauses after singing, "The driver on the bus says, 'Move on back . . .'" Chloe looks up at her mother, then to a large, single-message voice output device; she eventually reaches forward with her left hand because her right is in a splint and completes the line, "All through the town." Her mother wraps Chloe in a warm embrace, and they both smile. The splint, voice output device, and additional communication symbols have increased Chloe's ability to participate on more equal terms during storybook reading. She no longer resists storybook reading because she can communicate during the experience. She has become a learner.

Miss Becky, a special educator in a rural school system who teaches children with the most significant intellectual disabilities, is trying to engage Katy, a 5-year-old with severe physical impairments and complex communication needs. She has just introduced Katy in the past month to core vocabulary as a means of augmentative and alternative communication (AAC) (i.e., communication approaches that supplement or replace speech). Katy has not previously received any early intervention services and has had no prior access to AAC. As Miss Becky reads aloud, she pauses and points to symbols representing core vocabulary words in a communication book (i.e., a collection of pages joined by a pair of ring binders that have four symbols displayed on each page). She points to the symbols and says the words HE LIKE. Then she elaborates, "He likes playing in the snow. Do you like playing in the snow?" Katy pushes her communication book onto the floor and screeches. Miss Becky retrieves the communication book and continues reading and pointing to the symbols representing core vocabulary when they match her speech. Katy repeatedly flips through the nine pages of her communication book, peers through the pocket protector sheets as if they were windows, mouths the corners of the pages and book, and pushes or drops the book to the ground many times a day. And so it continues, day after day.

Augmentative and Alternative Communication and Core Vocabulary

AAC is a term that describes a range of communication approaches that can supplement or replace speech. AAC can be unaided (e.g., facial expressions, gestures, sign language) or aided (e.g., graphic symbols, tactile symbols, photographs, devices, and special apps). Until students can spell, they depend on others to decide which words to provide them in aided AAC. In Chapter 11, more information is provided about AAC and selecting vocabulary, but throughout the book we refer to *core vocabulary,* which comprises the words used most frequently in oral and written English (Banajee, Dicarlo, & Stricklin, 2003; Dennis, Erickson, & Hatch, 2013). Core vocabulary words are mostly pronouns, verbs, prepositions, and adjectives. These words are conceptual and flexible and can be used across contexts, purposes, and partners. For more on core vocabulary, see the web site for Project Core, directed by the Center for Literacy and Disability Studies at the University of North Carolina at Chapel Hill, at http://project-core.com.

A year and a half later, Katy loses her balance while using a makeshift walker and falls face first in the hallway. After Miss Becky helps her up and gets her seated, Katy turns pages of a more sophisticated version of her early communication book, one that now includes both high-frequency core vocabulary and other, more specific vocabulary (e.g., body parts, feelings). Katy points to symbols through her tears: NOT GOOD. NOSE. HURT. Miss Becky gives her a hug. Over the course of the school year, Katy will go on to demonstrate accurate recognition of the entire upper- and lowercase alphabet, regularly participate in shared reading, initiate conversations throughout the school day, and use phonetic spelling to begin to write words using initial letter sounds. When one of her classmates seems unhappy, Katy turns to a page in her communication book and points to SAD.

Miss Becky replies, "She does seem sad. I wonder why."

Katy turns to her classmate, flips to her alphabet page, and points to *Y.*

Unlike Chloe, Katy's learning difficulties went beyond access challenges. These difficulties may have been due to her disabilities or associated health conditions or to the fact that the adults in her home spoke a different language than the adults at school. Whatever the reason, Katy, just like Chloe, became a learner when she was given time, repeated experience, demonstrations of how to point to symbols to communicate, daily participation in the kinds of emergent literacy activities described in this chapter and book, and a patient and persistent teacher. Both girls began to demonstrate emergent literacy skills.

THEORETICAL MODELS OF EMERGENT LITERACY

Emergent literacy explains how individuals with even the most significant disabilities begin to make progress toward becoming independent readers, writers, and symbolic communicators when given appropriate support and experience over time. *Emergent literacy* is defined quite simply as all of the reading and writing behaviors and understandings that precede and develop into conventional reading and writing (Sulzby, Branz, & Buhle, 1993). Table 1.1 defines some of the most common terms used to refer

Table 1.1. Key literacy terms defined

Term	Definition
Alphabet knowledge	The ability to name, distinguish and produce the shapes, and identify the sounds of alphabet letters.
Alphabetic principle	The understanding that written letters represent speech sounds.
Alternate pencils	Nonconventional writing tools and techniques that provide students with access to all 26 letters of the alphabet when they are unable to hold a pencil or type on a keyboard.
Concept of word	The awareness that spoken words match to printed words in the reading of text.
Core vocabulary	Refers to the small number of most frequently occurring words that make up a large percentage of our face-to-face communication (e.g., *go, more, like, not*).
Inside-out literacy processes and skills	Knowledge of the rules and procedures for translating print into spoken words or spoken words into print.
Language comprehension	The ability to process and understand words, phrases, sentences, and discourse in written or spoken language.
Metalinguistic awareness	The ability to think about and discuss language as an object (e.g., to talk about words or sentences as entities) or discuss language as a system (e.g., understanding that changing word order changes meaning).
Oral language comprehension	The ability to process and understand words, phrases, sentences, and discourse in spoken language.
Outside-in literacy processes and skills	Knowledge of the world and oral language that children bring to the particular printed words they are trying to read (e.g., word or sentence meaning, background knowledge).
Partner-assisted pencils	A collection of writing tools and techniques (i.e., alternate pencils) designed as low-tech solutions to alphabet access for students with significant physical impairments who cannot hold pencils or type on keyboards. The partner presents the alphabet to the learner one letter at a time, the student indicates when the partner presents a desired letter, and the partner writes down the choices of the learner.
Phonemic awareness	Awareness of and ability to cognitively manipulate the individual sounds in spoken words; a *phoneme* is the smallest possible unit of speech sound.
Phonics	Instructional methods focused on teaching the use of letter–sound relationships to figure out the pronunciation of words.
Phonological awareness	A set of skills that includes recognizing and cognitively manipulating units of oral language such as words, syllables, onsets, and rimes. It does not involve print awareness.
Print concepts	Knowledge of how print works in reading and writing (e.g., letters and words convey the message, we read from left to right and top to bottom on a page).
Print functions	The range of uses for written language. Some functions of print include memory support, problem solving, acquiring knowledge, or maintaining social relationships.
Reading comprehension	The ability to process text and understand its meaning.
Syntactic awareness	The ability to evaluate and manipulate word order in a sentence.
Word knowledge	Also called *vocabulary,* word knowledge is defined as those words known and used by a person.

to these behaviors and understandings, along with additional terms relating to literacy instruction. (A downloadable and photocopiable version of Table 1.1 is available with the downloadable materials for this book.) Three theoretical models of emergent literacy are widely accepted in the literature today as descriptions of its components (see, e.g., Neumann, Finger, & Neumann, 2017; Piasta, Groom, Khan, Skibbe, & Bowles, 2018), each overlapping with the others:

1. One proposes that emergent literacy consists of four areas of interacting knowledge—print concepts and functions; writing; letter, sound, and word knowledge; and language comprehension (Mason & Stewart, 1990).
2. Another divides a comparable set of skills and understandings into interdependent outside-in and inside-out processes (*outside-in* refers to what children understand about the contexts of reading and writing, and *inside-out* refers to what children understand about translating print into sound or sound into print) (Whitehurst & Lonigan, 1998).
3. The final model represents a third organization, making four categories of knowledge separate and distinct—conceptual knowledge about the functions of print and self-perceptions of learning; procedural knowledge related to letters, sounds, and words; oral language knowledge and comprehension; and metalinguistic skills related to phonological and syntactic awareness (Sénéchal, LeFevre, Smith-Chant, & Colton, 2001).

Several features of all three models are particularly relevant. First, although reading, writing, speaking, and listening can be categorized in various ways, ultimately they are language skills and understandings that influence emergent literacy learning concurrently, interactively, and recursively. For example, we have worked with preschoolers with autism spectrum disorder (ASD) who did not speak before they could read and write a few words. We have taught children who could not talk but who learned to use phonetic spelling to communicate messages. We have interacted with children with dual sensory impairments who acquired increasingly sophisticated written language skills over a period of years through alternative means of input and expression. The fact that no one area of skill or knowledge must precede any others, or is more important than any of the others, makes emergent literacy a particularly resilient learning model for children with significant disabilities.

A second feature of emergent literacy, particularly relevant to individuals with significant disabilities, is that it exists on a continuum that appears to begin just before birth as infants in utero gain various forms of language awareness (Moon, 2017). That means there are no prerequisites beyond life. There are no candidacy questions beyond being a human being. That also means that emergent literacy never ceases to be relevant. When 61-year-old Danny, who has significant multiple disabilities, lives in a residential facility, and has never received formal literacy instruction, demonstrates some alphabet awareness and an interest in looking at magazines, it is important to provide opportunities and experiences that will enable him to relate that knowledge to reading, writing, and communicating. Progress begins when learning opportunity begins.

A third aspect of all three models is that they suggest that the functions of literacy are just as important as the forms. That is, students with significant disabilities must be engaged in exploring and using reading and writing in real-world contexts from the

beginning. They must have opportunities to observe how others integrate reading and writing into their daily lives. Students must be given opportunities to make lists, write invitations and thank-you notes, muddle around in texts that represent their experiences and interests, and interact with others who are also learning. Teachers must demonstrate how these forms of print work and reduce hesitance, reluctance, and confusion by making print experience more accessible.

Finally, the models suggest that students develop increasingly more sophisticated understandings of emergent literacy through active and interactive engagement with the world. It is not only the trip to the zoo that is informative, but also the collection of photographs to prompt memory of the event later, the conversations with others about that experience, and the reading, writing, drawing, and thinking associated with the initial learning opportunity. Emergent literacy understandings and skills progress when students have opportunities to 1) engage directly with the world; 2) explore related print in order to develop understandings of its forms, functions, and uses; and 3) interact with others who are literate in order to gradually refine those understandings in school and beyond (National Early Literacy Panel, 2008).

Emergent literacy is highly dependent on the nature, frequency, accessibility, and interpretability of experiences with print. For this reason, many older students and even adults with significant disabilities are still emerging in their understandings of literacy because of limited learning opportunities earlier in their lives (Erickson, Koppenhaver, & Yoder, 2002). For example, Zach is a 27-year-old young man with ASD who lives with his mother. Zach missed out on many early learning opportunities because of his extreme dysregulation and challenging behaviors. He knows little more about literacy than what he observes in his home and community. The particular challenge for Zach, and for other individuals who no longer attend school, is gaining sufficient quantity, quality, frequency, and variety of emergent literacy experience in homes or community settings that generally are not designed to provide instruction.

> Emergent literacy consists of all reading and writing behaviors and understandings that precede and develop into conventional reading and writing.

WHEN IS COMPREHENSIVE EMERGENT LITERACY INSTRUCTION APPROPRIATE?

Comprehensive emergent literacy instruction is required to address the diverse needs, understandings, and backgrounds of individuals with significant disabilities. Before we describe what comprehensive emergent literacy instruction is, however, it is important to consider when it is most appropriately provided to students with significant disabilities. Some aspects of emergent literacy are called for as soon as a child is born, and reading aloud or similarly rich oral language experiences are called for even before birth. For example, studies have found that in the third trimester, fetuses begin to distinguish language from other auditory stimuli, detect when their mother is talking, and may be able to distinguish their mothers' language from foreign languages (May, Byers-Heinlein, Gervain, & Werker, 2011; Moon, 2017; Moon, Lagercrantz, & Kuhl, 2013).

In school (or beyond), we determine whether comprehensive emergent or conventional literacy instruction is more appropriate by answering four very simple yes/no questions. We want to know whether the student

1. Identifies most of the letters of the alphabet, most of the time
2. Is interested and engaged during shared reading
3. Has a means of communication and interaction
4. Understands that print has meaning (Erickson, Koppenhaver, & Cunningham, 2017)

Four "yes" responses indicate that the student is likely to be successful with the introduction of comprehensive conventional literacy instruction (see Chapter 6). One or more negative answers indicates the need for comprehensive emergent literacy instruction. A comprehensive approach is called for because of the enormous variety in learners with significant disabilities and because emergent literacy knowledge and understandings have such foundational importance to later conventional literacy learning. That is, emergent literacy represents a set of vital beginnings that, with further experience and instruction, will lead to the more important ends of independent communication, reading, and writing capabilities and to the choices, opportunities, and increased control those skills represent for people with significant disabilities (Koppenhaver, 2000).

WHAT IS COMPREHENSIVE EMERGENT LITERACY INSTRUCTION?

Comprehensive emergent literacy instruction consists of a set of experiences designed to enable the development of print knowledge through a variety of meaningful interactions with literate others and texts (Koppenhaver, Coleman, Kalman, & Yoder, 1991). Such instruction includes a mix of skill development, integrated communication and literacy activities, use of print in meaningful contexts, and purposeful and independent exploration of reading and writing tools, materials, and experiences. Done well, this instruction will lead students with significant disabilities to develop the print concepts, alphabet knowledge, phonological awareness, language comprehension, and communication skills that will enable them ultimately to benefit from conventional literacy experiences and instruction. Equally important, it will help students develop identities as readers and writers, understand the personal value and power of symbolic communication and literacy, and recognize a wide variety of purposes for reading and writing, and it will motivate continued learning. The central activities of comprehensive emergent literacy instruction are implemented daily and include shared reading and writing, instruction in alphabet knowledge and phonological awareness, and independent reading and writing. Each is described next.

Shared Reading

Shared reading is defined as the interactions that occur between an adult and a student as they look at and read a book together (Ezell & Justice, 2005). The goals of shared reading are to increase student engagement and interactions during the shared reading experience and encourage students to take the lead in these interactions as they gain competence and confidence. Shared reading outcomes largely depend on the degree to which adults are responsive to the learner(s) with whom they are reading.

Effective adult language responses should be oriented to the student, promote interaction, or model language (Girolametto & Weitzman, 2002). Student-oriented responses require following the student's lead and providing sufficient wait time for student contributions. An adult might observe a student looking intently at an illustration and comment, "I see you looking at that bear. That's a scary bear!" The adult would then wait in order to provide opportunity for further student contributions. Interaction-promoting responses require the adult to use open-ended questions or comments and monitor student attention, engagement, and participation. For example, instead of asking for a correct response pertaining to the name of a character or element in an illustration, the adult might comment, "I wonder what is going to happen next." Finally, language modeling requires adults to acknowledge and expand or extend students' communication attempts. For example, a student might comment on a dog in the story, pointing to the word *good.* The adult might then respond, "He is a good dog. He's helping." Such interactions over time, accompanied by sufficient time for students to think and consider their own comments, provide repeated language learning opportunities, value the student's contributions, and lead to increased student participation (Ezell & Justice, 2005).

A few studies have attempted to incorporate such strategies in working with individuals with significant disabilities and demonstrated success with a wide variety of students and communication partners. When an educational assistant was taught the previous strategies while modeling AAC use with a 3-year-old boy with ASD, he increased his turn-taking, use of gestures and speech, and proficiency with an AAC device (Sennott & Mason, 2016). In another study, parents were taught similar strategies in introducing story-specific vocabulary to young girls with Rett syndrome and complex communication needs during storybook reading (Skotko, Koppenhaver, & Erickson, 2004). The girls increased their attention to books and parents, responding, and commenting. Finally, a teacher was taught these three responsive adult language types as she engaged in shared storybook reading with three children with significant intellectual disabilities and complex communication needs, two of whom lived in homes where English was spoken as a second language (Cheek, Harris, & Koppenhaver, 2019). All three students increased their engagement with text, interactive communication, and use of shared reading strategies as measured by an adapted form of the Adult/Child Interactive Reading Inventory (DeBruin-Parecki, 1999). Studies such as these suggest that adults can learn to provide responsive shared reading experiences, and students will benefit if they do. (More information about shared reading is provided in Chapter 4.)

Shared Writing

Shared writing is a common practice in primary classrooms serving typically developing students and students who struggle in learning to read, but it can have wider use. In shared writing, adults regularly scribe messages that students dictate about the day's events, activity preferences, and a variety of other student experiences in and out of school. This language experience approach to literacy learning, first detailed in Allen's (1976) book of lesson variations, requires students to be able to orally dictate ideas that teachers scribe. Such a process presents problems for many students with significant disabilities who may have a variety of speech, language, or communication challenges (Erickson & Geist, 2016).

Predictable chart writing is a variation on the approach that uses repeated sentence frames and offers greater structure and predictability while reducing the

expressive language demands of the original activity (Hall & Williams, 2001). Every aspect of the lesson requires repeated student attention to highly predictable text structures addressing their personal interests. The lesson structure across the week enables teachers to adapt instructional conversations throughout the activities in order to target student attention to letters and sounds, concept of word, sight words, and print conventions or to address their communication needs. More specific detail about predictable charts is found in Chapter 5.

Alphabet Knowledge and Phonological Awareness

Knowledge of alphabet letter names, sounds, and graphic shapes is vitally important in the context of learning to read and write. In fact, alphabet knowledge becomes the single strongest predictor of learning to read when taught in the context of wide-ranging and meaningful text-based literacy experiences (National Early Literacy Panel, 2008). Letter names help children map print onto speech and begin to identify letter–sound relationships (Foulin, 2005) because nearly every letter represents its sound at the beginning or end of its name (e.g., the name of the letter *s, ess,* ends in /s/, the name of the letter *b, bee,* starts with /b/) (Jones, Clark, & Reutzel, 2013). Furthermore, the recognition of letters and the association between their names and sounds helps emergent readers come to recognize concept of word in text by observing the white space next to the initial letters they recognize (Morris, Bloodgood, Lomax, & Perney, 2003). Letter name and shape recognition, along with growing concept of word knowledge, lead emerging readers to attend to additional letters and sounds in words and ultimately support learning to decode, spell, and read words (Morris et al., 2003). Letter names and their associated sounds and shapes are not equal in the learning challenges they present to students. For example, students with significant intellectual disabilities are 10% more likely to recognize letters in their own name than other letters of the alphabet (Greer & Erickson, 2018).

Four tasks are particularly helpful in contextualizing alphabet instruction from the beginning—letter name identification, letter sound identification, identifying the letter in texts, and producing the letter form (Jones et al., 2013). There is additional evidence to suggest that pairing letters with personally meaningful pictures can support remembering what is taught (Shmidman & Ehri, 2010). In addition, the prevalent letter-of-the-week instruction is inefficient, based more in tradition than research evidence (Huang, Tortorelli, & Invernizzi, 2014; Justice, Pence, Bowles, & Wiggins, 2006), and should be replaced with more distributed practice that a letter-of-the-day approach offers, particularly for students who are at risk for literacy learning difficulties (Earle & Sayeski, 2017; Piasta & Wagner, 2010b).

Students must have repeated daily opportunities to engage in reading and writing experiences involving purposeful use of text, regardless of the methods used to introduce letter names, shapes, and sounds. We have met adolescents and adults who have learned all of the letter names, upper- and lowercase, and sometimes even their associated sounds, but who can neither read text nor spell words. This outcome is an artifact of instruction, not learner capability. Writing with talking word processors, listening to others read texts aloud, engaging in guided experiences with repeated line texts, writing predictable charts, and participating in shared reading are all opportunities for contextualized experience in recognizing and using alphabet knowledge to accomplish wider and more meaningful purposes.

Every day, give students opportunities to engage in reading and writing experiences involving purposeful use of text. Alphabet knowledge and phonological awareness are important but should not be the sole focus of instruction.

Phonological awareness describes the recognition of different units of sounds in spoken language within words, phrases, or sentences. It can be acquired by individuals with significant disabilities through experience, even in the absence of explicit instruction (Erickson, Clendon, Abraham, Roy, & Van de Carr, 2005). For example, while visiting a preschool classroom, we observed Matthias, a young boy with ASD and complex communication needs, clapping along to a children's song. Matthias initially clapped in rhythm, but then he shifted unconsciously in midverse to clapping each syllable, clearly demonstrating his phonological awareness. Phonological awareness can also be acquired through instruction, particularly instruction that links letter names and shapes with the sounds they represent and is delivered in small groups in brief lessons a few times a week (Browder, Ahlgrim-Delzell, Courtade, Gibbs, & Flowers, 2008; National Reading Panel, 2000). A wide range of activities incorporate opportunities to develop and begin to apply phonological awareness skills in the course of engaging activities, including choral reading of nursery rhymes or poetry, singing songs (particularly when accompanied by the lyrics), using text-to-speech writing apps or software, and reading alphabet books (Erickson, 2017; Murray, Stahl, & Ivey, 1996). (More information about alphabet knowledge and phonological awareness can be found in Chapter 3.)

Independent Reading

Children with significant disabilities will engage in independent reading in ways that mirror their understanding of book handling and reading when they are given access to texts such as predictable charts, models such as shared reading, and the wide-ranging experiences of a comprehensive emergent literacy program. Some children will browse through books, flipping the pages quickly from front to back or in reverse (Katims, 1991; Koppenhaver & Erickson, 2003). One older gentleman with significant intellectual disabilities whom we knew in a group home always looked at magazines from back to front with the pages upside down. Other students will silently study pages, particularly illustrations, move their hands over the print, or point to particular letters, often the ones in their names (Koppenhaver, Milosh, & Cheek, 2019). Katy, whom we introduced earlier in this chapter, would silently study each page, examine the illustrations, and vocalize to no one in particular. When she reached a page of particular interest—for instance, one with illustrations of frogs, which were a long-term fascination—she would slap the page and pull on the hand of any adult within reach, indicating that she wanted someone to read that page aloud. Rich, a second grader with significant disabilities, loved to look at picture books, often labeling the picture or relating it to his own experience. We watched him read a board book. When he saw the picture of a pig, he read aloud, "peee"; when he saw a picture of a pie, he read, "puhpuhpuhpie"; and when he saw a cake, something he loved for his mother to bake, he read, "mamamamahh." Still other students may ignore books; mouth, throw, or tear them; or engage in a variety of other behaviors indicating that they need more opportunity to learn how books are used.

Time for independent reading is an important component of comprehensive emergent literacy instruction because it provides students with opportunities to apply what they are learning about printed words, illustrations, book handling, and the world while developing the dispositions that can lead to lifelong reading with continued support and instruction (Owocki & Goodman, 2002). These explorations and readings of books at levels commensurate with student experience and understanding lead to measurable gains in emergent literacy (Hatch & Erickson, 2018).

Independent reading is also valuable for the assessment information it provides. Brenda, a child with significant intellectual disabilities, ignored books or rubbed her hands along the edges during independent reading time. The latter behavior led her instructional team to place a basket of books near her during morning setup, snack time, and other breaks. By observing her persistent tactile explorations and engaging in shared reading, the team ultimately found an oversized book with bright, colorful illustrations that led Brenda to begin turning pages herself to examine the illustrations. Our recent explorations using eye-tracking technologies have shown us how important print-referencing strategies can be in directing young girls with Rett syndrome to attend to print in digital texts. Simply pointing to print while reading, highlighting similarities or differences in letters or words, or identifying print conventions while engaging in shared reading can shift children's focus from the illustrations to also including print.

A father of a 2-year-old boy with severe physical impairments and complex communication needs who loved to look at books himself or be read with taught us a key strategy to use when children resist reading. When his son pushed books away or screamed, his father would find a single illustration in the book that connected with his son's experiences, show it to his son, talk about it, and then put the book away as soon as fussing began. He gradually increased the number of pages they could read and discuss together. By observing his son closely in this way over a period of several months, he helped his son find personal interest in books and gradually come to love them.

Independent reading for many individuals with significant disabilities will need to be supported with adapted or digital texts. The Tar Heel Reader web site (http://tarheelreader.org) is one of the easiest, most accessible free libraries for emergent and beginning readers. This collection can be read online, read on tablets or smart phones, or downloaded in a variety of formats depending on student needs. The capability of creating books personalized to the learner's unique interests is a particularly important feature for parents and professionals trying to assist resistant emergent readers. However texts are accessed, it is critical for adults to closely observe students and gradually provide experiences that will lead them to independent exploration and gradually more complex engagement with reading. (Detailed information about independent reading is provided in Chapter 4.)

Regular opportunities for independent reading and writing help students apply what they are learning and develop the habits and dispositions to become lifelong readers and writers.

Independent Writing

Independent writing is structured to give students maximum control over every aspect of the writing process so that they can apply their emerging understandings of alphabet knowledge, phonological awareness, and print concepts. With the use of

partner-assisted writing tools, even students with the most significant disabilities can engage in relatively independent writing by dictating what they want their partner to write for them (Hanser, 2006). All emergent writers are provided with access to all 26 letters, with no expectation that they know any of them initially and with no requirements of copying or tracing. Instead, independent emergent writing emphasizes communicating messages with whatever degree of understanding students may have.

Students may initially fail to use a writing tool or string together what appear to be random letters lacking conventions of spelling, print, or even message intent. Continued encouragement, teacher and peer demonstrations, shared reading interactions, predictable chart lessons, and alphabet and phonological awareness instruction gradually enable student creation of increasingly more conventional and readable texts. Adults must be vigilant kid watchers (Owocki & Goodman, 2002) who observe everything, refrain from correcting or criticizing, and always encourage students to write more. When adults provide a model of conventional writing, it is in response to the student's chosen topic and nonconventional text, and it is consistently a simple demonstration of convention that is never followed by demands for child adherence. For example, a child with complex communication needs who does not yet initiate conversation might choose a picture of lions at the circus and write XPQZASDFGHJKLLL. The teacher could respond helpfully, "I love what you wrote about lions at the circus! I'm going to write *lion,* L-I-O-N. That lion is scary! Write some more about lions at the circus." Simple responses such as this help students develop their own identity as writers, convey that their writing is valued, and begin to develop the useful habit of elaborating their ideas. Such responses do not require a teacher to pretend to read the message, only to value it. A particularly observant teacher might notice that the previous student selected letters on the home row of his keyboard to generate the message, indicating a careful and systematic, though nonconventional, approach to writing. This teacher might slowly and deliberately model using a single finger to type while making sure the student was attending to the keyboard, demonstrating for the student how a keyboard works. (Detailed information about independent writing is provided in Chapter 5.)

A FINAL NOTE: THE BEGINNINGS OF LITERACY

Emergent literacy understandings and behaviors represent important initial steps in learning to communicate symbolically and read and write independently (Koppenhaver, 2000). When 6-year-old Katy, who has severe physical disabilities, significant intellectual disabilities, and complex communication needs, spells *Y* to ask a question, it is no small accomplishment. The day that 3-year-old Jason, who has ASD and was thought to have complex communication needs, began to speak after learning to write his name was astonishing to his mother. When 18-year-old Winston, who has severe physical impairments, complex communication needs, and dual sensory impairments, began to spell phonetically after 2 years of emergent literacy instruction, it was cause for a major celebration. As life changing as these emergent literacy acts were, however, they were all just individual steps, critically important individual steps, along an even more important journey toward convention:

- The symbolic communication capabilities to communicate sophisticated messages that are widely understood
- The spelling abilities that enable specific composing beyond the limits of AAC systems with graphic symbols

- The conventional reading abilities that allow independent learning and research about the world or escape into fiction
- The conventional writing abilities that support memory, complex problem solving, processing of experience, recording of history, and wide communication through an endless and continually evolving set of technologies

The world is a richer place because conventional literacy and communication skills enabled people such as William Rush (Rush, 1986), Ruth Sienkiewicz-Mercer (Sienkiewicz-Mercer & Kaplan, 1989), and Temple Grandin (Grandin, 1995) to write from their own perspectives about their personal histories, interactions, and perspectives on life. All three began with nonconventional forms of communication and literacy as children and were supported in moving beyond those hesitant beginnings.

In the remainder of this book we describe how to help individuals with significant disabilities get started with emergent communication and literacy, gradually gain understanding and skill through instruction and experience, and ultimately communicate conventionally face to face and in writing. They may or may not choose to write poems, autobiographies, or journals, but they will experience increased autonomy, self-advocacy, and human connection. They and we will be the richer for it.

RECOMMENDED READINGS AND RESOURCES

The following readings and resources will deepen readers' understanding of emergent literacy in students with significant disabilities.

Butler, D. (1979). *Cushla and her books.* Boston, MA: The Horn Book.

Center for Literacy and Disabilities Studies. (2019). *Project Core.* Retrieved from http://project-core.com

Erickson, K. A. (2017). Comprehensive literacy instruction, interprofessional collaborative practice, and students with severe disabilities. *American Journal of Speech-Language Pathology, 26,* 193–205. doi:10.1044/2017_AJSLP-15-0067