Teaching Literacy Skills to Students with Significant Intellectual Disabilities: A Review of Literature

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Abstract

Students with intellectual disabilities are at risk of obtaining little to no literacy skills unless they are directly taught emergent and conventional literacy skills. The NCLB (2002), the National Reading Panel (NRP) report (2000), and the IDEA (2004) have directed their focus on the best approach for teaching literacy skills in the connection with the Common Core State Standards for students with significant intellectual disabilities (Browder & Cooper-Duffy, 2003; Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2009; Cooper-Duffy, Szejda, & Hyer, 2010; Copeland & Keefe, 2007). The importance of teaching literacy skills for these students would bring about more independence and open opportunities for employment. Unfortunately many educators are baffled by the best approach to teach literacy skills to students with significant disabilities. This article will review what we currently know about teaching literacy skills to students with significant intellectual disabilities and offer approaches for educators to help these students obtain literacy skills.

Introduction

Teaching literacy skills to students with significant intellectual disabilities has not been a priority in the past (Agran, 2011; Baker, Spooner, Ahlgrim-Delzell, Flowers, & Browder, 2010; Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Mraz, 2009). Significant intellectual disability is defined as “significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental periods, that adversely affects a child’s education performance” (Individual with Disabilities Education Act, 2004, Sec. 300.8, c, 6). The lack of exposure to literacy for this population was fueled by society’s view that students with disabilities cannot learn literacy skills (Browder, Gibbs, Ahlgrim-Delzell, Courtade, Mraz, & Flowers, 2009). Limited exposure and low expectations in the home, school, and community have also considerably decreased the opportunities for students with disabilities to learn reading and writing skills (Browder, Gibbs, Ahlgrim-Delzell, Courtade, Mraz, & Flowers, 2009; Copeland & Keefe 2007; Koppenhaver, Hendrix, & William, 2007; Weikle & Hadadian, 2004; Westling & Fox, 2009, Chapter 17). In fact, researchers Machalicek, Sanford, Lang, Rispoli, Molfenter, & Mbeseha (2010) found students with intellectual disabilities are at risk of obtaining little to no literacy skills.

The NCLB (2002), the National Reading Panel (NRP) report (2000), and the IDEA (2004) have directed their focus on teaching literacy skills in the connection with the Common Core State Standards for students with significant intellectual disabilities (Browder & Cooper-Duffy, 2003; Browder, Mims, Spooner, Ahlgrim-Delzell, & Lee, 2009; Cooper-Duffy, Szejda, & Hyer, 2010; Copeland & Keefe, 2007). Educators looked to the NRP framework for developing literacy instruction for all students. This framework includes (a) phonemic awareness, (b) phonics, (c) fluency, (d) comprehension, and (e) vocabulary instruction (Browder, Ahlgrim-Delzell, Courtade, Gibbs & Flowers, 2008; National Reading Panel, 2000).
The Importance of Teaching Literacy Skills to Students with Significant Intellectual Disabilities

The importance of literacy can be seen by the improved quality of life, increased opportunities and deepened knowledge of each student (Browder et al., 2009; Browder et al., 2006; Chiang & Lin 2007). Literacy is central to improve communication (Bailey, Angell, & Stoner, 2011; Calhoon, 2001; Machalicek, Sanford, Lang, Rispoli, Molfenter, & Mbeseha, 2010; Nation & Norbury, 2005), to gain employment, to learn cooking skills (to shop, to become conventional readers and writers, and to interact within the community and learn independence (Copeland & Keefe, 2007; Fiscus, Schuster, Morse, & Collins, 2002; Westling & Fox, 2009).

Problems Teaching Literacy Skills to Students with Significant Intellectual Disabilities

Educators have struggled with how to teach literacy skills to students with significant intellectual disabilities for several reasons. First, students with significant intellectual disabilities demonstrate learning problems such as difficulty attending to stimuli, solving memory problems, making generalization, practicing self-regulation, using observational learning, and applying skills (Westling & Fox, 2009). Second, many educators are not properly prepared to teach literacy skills to this population (Browder, Ahlgrim-Delzell, Courtade, Gibbs, & Flowers, 2008; Cooper-Duffy & Szedja, Hyer, 2010; Durando, 2008). Third, because students with intellectual disabilities are not conventional literacy learners, educators struggle with the best approach for teaching the prerequisite emergent literacy skills (Collins, Karl, Riggs, Galloway, & Hager, 2010). Students with moderate disabilities have problems with sequencing and scanning words and generalization of reading skills (Rosenburg, Westling, & McLesky, 2011, Chapter 8). Many students with significant disabilities struggle to demonstrate awareness that they are being read to or to demonstrate knowledge of the difference between a book and a cup. Fourth, many students are non-verbal making it difficult to know how to teach phonological awareness and vocabulary instruction (Browder, Gibbs, Ahlgrim-Delzell, Courtade, & Mraz, 2009; Koppenhaver, Hendrix & Williams, 2007). Furthermore, knowing how to adapt reading and phonics instruction for non-verbal learners has been challenging for educators (Allor, Mathes, Roberts, Cheatham, & Champlin, 2010; Browder et al., 2008). Finally, literature contains studies that show students with significant intellectual disabilities can learn sight-words using time delay, but there is little research to show educators how best to teach for comprehension (Allor, Mathes, Roberts, Cheatham, & Champlin, 2010; Browder et al., 2009).

Past Models for Teaching Literacy to Students with Significant Intellectual Disabilities

Readiness Model

For years, schools used the Readiness Model for teaching literacy skills to students with significant intellectual disabilities (Browder & Spooner, 2011; Chapter 1; Copeland, & Keefe, 2007; van Kleeck & Schuele, 2010). The Readiness Model required students to master subskills or prerequisites such as letter sounds and relationships before learning more advanced literacy skills (Copeland, & Keefe, 2007; Mirenda, 2003; van Kleeck & Schuele, 2010). This model was problematic for students with significant intellectual disabilities since they never advanced past preschool level (Browder & Spooner, 2011; Chapter 1; Copeland & Keefe, 2007; Mirenda, 2003). Students who had limited speech or used Augmentative and Alternative Communication (ACC) to communicate were unable to demonstrate the prerequisite skills necessary for
advancement (Mirenda, 2003; McDonnell, Hardman & McDonnell, 2003). At that time, the emphasis on trying to teach academics to students with significant intellectual disabilities was halted or limited to the preschool curriculum.

**Functional Model**

A shift from the Readiness Model to a focus on the Functional Model took place in the mid to late 1970s (Browder & Spooner, 2011; Chapter 1; Copeland & Keefe, 2007). The Functional Model focused on teaching behaviors that had “real life application” (Browder & Cooper-Duffy, 2003; Browder & Spooner, 2011; Chapter 1) and was viewed as the best approach for teaching daily living skills, vocational skills, leisure skills, and community skills (Alwell & Cobb, 2009; Bouck, 2010; Cannella-Malone, Fleming, Chung, Wheeler, Basbagill, & Singh, 2011; Collins, Karl, Riggs, Galloway & Hager, 2010; Westling & Fox, 2009, Chapter 15). Because students with significant intellectual disabilities develop only a limited number of skills, careful selection of specific skills are crucial (Westling & Fox, 2009). The Functional Model looked at developing skills needed for (a) independent living, (b) participation within society, (c) social relationships, (d) employment and (e) self-determination (Westling & Fox, 2009). Emphasis was placed on teaching daily living skills that would lead to greater independence such as toileting, cooking, and dressing. The Functional Model provided a way for students to learn skills centered on independence. Teaching functional skills became a priority for the education of students with significant intellectual disabilities with little focus on being given to academic attainment.

**Functional Academics Model**

In the late ‘80s, an emphasis was placed on teaching students with disabilities a combination of age appropriate and relevant academics skills that had a functional application for the student (Browder & Spooner, 2011, Chapter 1; Browder et al., 2004). The combination of academics with functionality is known as the Functional Academic Model. Functional literacy skills usually consisted of using sight words to teach students with significant intellectual disabilities how to read a variety of items such as grocery items (Chiang & Lin, 2007; Rosenberg, Westling, & McLesky, 2011, Chapter 8; Westling & Fox, 2009). Research shows that students can learn sight words, but have limited exposure to literature, reading and comprehension (Baker, Spooner, Ahlgrim-Delzell, Flowers & Browder, 2010; Browder & Cooper-Duffy, 2003). Like the Readiness Model and the Functional Model, the Functional Academics Model limited students with significant intellectual disabilities access to a wide range of literacy skills (Browder & Spooner, 2011; Chapter 1; Copeland & Keefe, 2007; Mirenda, 2003).

**Current Models for Teaching Literacy to Students with Significant Intellectual Disabilities Balanced Literacy Model**

Many educators are moving towards a more balanced literacy approach for students with significant intellectual disabilities (Koppenhaver, Hendrix & Williams, 2007). The Balanced Literacy Model promotes the teaching of reading and writing behaviors in multiple environments with various levels of support and approaches (Van Kleeck & Schuele, 2010; Uzuner, Gırgın, Kaya, Karasu, Gırgın, Erdiken, & Cavkaytar, Tanridüler; 2011). The Balanced Literacy Model is founded on the belief that students with moderate to severe disabilities can learn literacy skills when given the appropriate accommodations and supports (Smith, Demarco & Worley, 2009; Mirenda, 2003). Researchers Cohen and Brady (2011) found that though the
Balanced Literacy Model is a creative way to provide literacy instruction, it often lacks universal agreement of instruction and lacks emphasis in scope and sequence.

**Direct Instruction Model.**

The Direct Instruction Model by Engelmann (1980) has been used in the general education classroom for decades. The key components of the Direct Instruction Model include teacher manuals with scripted lessons, student materials for each lesson, student evaluation and summary sheets, and interactive materials that enhance the lesson. The teacher manuals are created with explicit instructions for the teacher so that each scripted lesson can accurately be taught to students to ensure effectiveness of the curriculum goals.

The Early Literacy Skills Builder (ELSB) is a reading curriculum that provides direct instruction of emergent literacy skills (Knight, Browder, Agnello, & Lee, 2010). The curriculum is divided into five levels that focus on teaching the concepts of print, reading comprehension, phonemic awareness, phonics and vocabulary attainment to students with moderate to severe disabilities. The ELSB curriculum has scripted lessons for teachers and includes games and interactive materials that engage the students in reading behaviors in both one-to-one and small group formats. Research on the ELSB curriculum showed through intensive instruction and allowing more time, students with moderate to significant intellectual disabilities were able to gain a variety of early literacy skills including phonemic awareness. More research is needed to determine whether the ELSB could lead to independent reading behaviors that connect to meaningful life experiences (Browder, et al., 2008; Knight, Browder, Agnello, & Lee, 2010).

**Story-Based Learning Model.**

Recent trends for providing a comprehensive literacy program for students with significant intellectual disabilities have focused on the Story-Based Learning Model. The Story-Based Learning Model provides a means for students to participate in a wide range of literacy activities, develop communication skills and acquire comprehension and vocabulary skills (Browder, Trela, & Jimenez, 2007; Browder & Spooner, 2011, Chapter 5; Coyne, Simmons, Kame’enui, & Stoolmiller, 2004).

A multiple-baseline-across-participants design was used to instruct three teachers to use a task analysis to teach age appropriate literacy skills to students with significant intellectual disabilities (Browder, D., Mims, P., Spooner, F., Ahlgrim-Delzell, L., & Lee, A. (2009). Each participating teacher chose two students with significant intellectual disabilities from their class who were non-readers but could identify pictures. Teachers were instructed on how to use a twenty-five-step task analysis for the literacy lesson plan, how to self-monitor their use of the twenty-five-step task analysis, and how to use systematic prompting for all the steps of the task analysis. Eight books were adapted to include text and picture support, key vocabulary with picture symbols, and definitions of unfamiliar words. Teachers gave additional support by retelling the story at an early comprehension level. Data was collected on both teacher and student story-based instruction behaviors. The results showed that all of the students in the study increased independent responses during story-based instruction. In addition, teachers were able to learn and maintain the use of story-based instruction to teach age appropriate literacy to their students.

Browder, D., Mims, P., Spooner, F., Ahlgrim-Delzell, L., & Lee, A. (2009) used a multiple probe design across participants to investigate a method for implementing shared
stories for three students with multiple disabilities that included both team planning and task analytic instruction. The interventionist met with the team to plan for each student’s instruction and to discuss adaptations needed for each participating student. Three popular elementary level books were adapted to include the student’s name as the main character and a repeated story line that stated the main idea of the book. Sensory materials and objects that related to the story were also used during instruction. A sixteen-step task analysis was created to prompt student’s participation and comprehension during story-based instruction. The interventionist used one to one format to read the story aloud and provided least to most system of prompting for each step of the task analysis as needed.

The results showed that with proper adaptations and instruction all three students increased their independent responses during story-based lessons, suggesting that story-based instruction is an effective way of teaching students with significant intellectual disabilities emergent literacy skills.

Summary of Teaching Models

Teaching comprehensive literacy skills is essential for students with significant intellectual disabilities in order to learn new skills and to gain independence within society (Browder et al., 2009; Chiang & Lin 2007). Knowing the best approach for teaching literacy to students with significant intellectual disabilities has been challenging for educators (Browder, et al., 2008; Cooper-Duffy et al., 2010). Past teaching models focused on teaching prerequisite skills or teaching functional literacy skills without providing a comprehensive approach for literacy obtainment (Browder & Duffy, 2003; Browder et al., 2008, Browder & Spooner, 2011, Chapter 1; Copeland & Keefe, 2007; Miranda, 2003). Current teaching trends have focused on the Story-based Learning Model for teaching students with intellectual disabilities the necessary comprehensive literacy skills needed within our society (Browder & Spooner, 2011, Chapter 5; Browder et al., 2007). More research is needed in order to evaluate the effects of story-based instruction on the emergent literacy skills of students with significant intellectual disabilities. In addition, research is needed to evaluate whether story-based instruction could be centered on a specific topic, such as personal care skills.

Critical Elements for Teaching Story-Based Instruction

Current research points to several critical elements needed for teaching story-based instruction to students with significant intellectual disabilities. These elements include: (a) offering literacy in the natural setting (Koppenhaver & Erickson, 2003), (b) providing task analytic instruction and systematic prompting to learn steps of literacy (Browder et al., 2006), (c) choosing age appropriate books (Browder et al., 2007), (d) embedding communication systems (Skotko, Koppenhaver & Erickson, 2004; Browder et al., 2009), and (e) adapting materials for story-based learning (Browder et al., 2009).

For the first critical element, natural setting, researchers Koppenhaver and Erickson (2003) suggested that emergent literacy learning for students with significant intellectual disabilities and communication impairments occurs through shared exchanges around printed materials in naturally occurring situations. These natural settings can include the library, the classroom, at home during bedtime, or other natural settings. Educators should look to increase natural learning opportunities by offering: (a) a wider variety of reading materials, (b) embedding reading and writing materials into all activities, (c) modeling conventional writing and reading behaviors, and (d) integrating both text and pictures into the daily routines.
Task analytic instruction and systematic prompting, the second critical element, is an effective method for teaching students with significant intellectual disabilities a variety of skills including site-word instruction and functional skills (Browder et al., 2006; Browder et al., 2007). Task analytic instruction and systematic prompting ensures that students with significant intellectual disabilities learn the necessary steps to complete a task while providing a prompting system when students are unsure of the next step in the sequence. Students with significant intellectual disabilities need task analytic instruction and systematic prompting to understand what the next step is and how to initiate that step. Examples of systematic prompting strategies include: (a) system of least prompts, (b) constant time delay, (c) progressive time delay, and (d) most to least prompts (Westling & Fox, 2009).

The third critical element of story-based instruction is choosing age appropriate books and materials. Browder et al. (2007) and Smith, Demarco, and Worley (2009) state students with significant intellectual disabilities need age appropriate books as they mature through elementary school, middle school, and high school. Novels can be adapted to include abbreviated chapters, vocabulary words, main points, picture symbols, and key words. Smith, Demarco, and Worley (2009) found adapting age appropriate books allows students with significant intellectual disabilities to have access to the same reading curriculum as their typically developing peers while working on necessary emergent literacy skills.

Augmentative and Alternative Communication is the fourth critical element for teaching story-based instruction. Incorporating augmentative and assistive technology into story-based instruction can increase communication engagement and literacy attainment (Browder et al., 2009; Kent-Walsh, Binger, & Hasham, 2010; Skotko et al., 2004). AAC can include devices such as: (a) picture communication boards, (b) communication notebooks, and (c) voice output devices. Students with significant intellectual disabilities with communication impairments need access to AAC during literacy instruction in order to develop both emergent literacy and conventional literacy (Westling & Fox, 2009).

Adapting materials for story-based learning is the fifth critical element. Adaptations can include: (a) adding a repeated story-line to each page, (b) making the student’s name the main character of the book, (c) using pictures to answer comprehension questions, (d) using communication picture strips and, (e) developing vocabulary charts (Browder et al., 2009). Students with significant intellectual disabilities need a variety of materials adapted during literacy instruction to increase their independence and develop emergent and conventional literacy skills.

Researchers Cooper-Duffy et al. (2010) found seven critical elements to teaching literacy skills to students with significant intellectual disabilities. These elements include: (a) development of themes that are age appropriate, (b) focus on the needs and strengths of the student, (c) lesson plans with objectives from the IEP, (d) selection of vocabulary words, (e) adaptations, (f) systematic instruction, and (g) evaluation of student progress (Cooper-Duffy et al., 2010). Understanding and implementing the critical elements of story-based instruction will lead to a wider range of literacy.

**Conclusion**

Research indicates students with significant intellectual disabilities have not been taught comprehensive literacy skills that could lead to independence within our society (Agran, 2011; Baker, Spooner, Ahlgrim-Delzell, Flowers & Browder, 2010; Browder, Gibbs, Ahlgrim-
Delzell, Courtade, Mraz, & Flowers, 2009). While comprehensive literacy attainment and instruction is highly valued by our society, students with intellectual disabilities have been limited to sight word instruction to teach functional daily living skills (Browder et al., 2006; Browder et al., 2009; Chiang & Lin 2007). Sight word instruction has been used to successfully teach students with disabilities a broad range of functional skills (Westling & Fox, 2009). Providing sight word instruction allowed educators to teach essential functional daily living skills. However, it offered students with significant intellectual disabilities little instruction on comprehensive literacy skills necessary to be a conventional literacy learner.

The NCLB (No Child Left Behind, 2002), NRP report (National Reading Panel, 2000), and IDEA (Individuals with Disabilities Education Act, 2004) have forced educators to focus on instruction in the area of literacy skills that connect to the Common Core State Standard for students with significant intellectual disabilities (Browder & Cooper-Duffy, 2003; Browder, et al., 2009; Cooper-Duffy, et al., 2010; Copeland, S., & Keefe, 2007). Unfortunately, many educators are baffled on how to teach comprehensive literacy to students with significant intellectual disabilities (Browder et al., 2008; Durando, 2008; Cooper-Duffy, et al., 2010). Past literacy models, focused on teaching functional skills and offered educators little instruction on how to teach comprehensive literacy skills to this population (Browder, Gibbs, Ahlgrim-Delzell, Courtade, Mraz, & Flowers, 2009; Westling & Fox, 2009, Chapter 17). Current research using the Story-based Instruction Model holds promise for teaching students with significant intellectual disabilities comprehensive literacy skills (Browder & Spooner, 2011, Chapter 5; Browder et al., 2007; Browder et al., 2009; Collins, Karl, Riggs, Galloway, & Hager, 2010; Coyne, Simmons, Kame’enui, & Stoolmiller, 2004). However, there is a lack of research in the area of teaching literacy skills to students with significant intellectual disabilities. Further research is needed to find the best approach for teaching literacy skills to students with significant intellectual disabilities.

References


Academic Forum 32 (2014–15)


Biographical Sketch

Dr. Glenda Hyer currently serves as an Assistant Professor in Special Education at Henderson State University. Her expertise and research interest are in the area of Severe to Profound and Autism. Before coming to Henderson State University, Dr. Hyer served as the Grant Coordinator for a Personnel Preparation Grant at Western Carolina University in Cullowhee, NC. In addition, Dr. Hyer taught a variety of classes as a visiting Professor for Western Carolina University. Previously, Dr. Hyer worked for ten years as a public school and private school special education teacher and has worked with a variety of ages and disabilities. Dr. Hyer graduated in 2007 from Western Carolina University with a Masters of Arts in Teaching. In 2012, Dr. Hyer completed her Ed. D in Teaching and Learning with an emphasis on Severe to Profound disabilities. Her dissertation was nominated for best dissertation in 2012, and she has presented her research from her dissertation at international, national, and regional conferences.

As a researcher, Dr. Hyer has published several articles in the field of Special Education. Her most recent article, Blending Common Core Standards and Functional Skills in Thematic Units for Students with Significant Intellectual Disabilities, was published fall 2014 in the Journal of the American Academy of Social Education Professionals (JAASEP). Dr. Hyer continues to present her research at international, national, and regional conferences and recently presented at the 2014 TASH national conference on Teaching Thematic Units Connect to the Common Core to Students with Moderate to Severe Disabilities.
Dr. Hyer teaches undergraduate and graduate courses offered in Special Education Programs in the Department of Teachers College Henderson. She teaches courses in Methods of Instruction for Severe to Profound Students, Introduction to Autism, Psychology of the Exceptional Child and Practicum. Additional duties include academic advising, university/college/department committee service, research, and Specialized Professional Association (SPA) responsibilities.

Legal Literature
Scott Turow discusses Jeff Bezos, Monica Lewinsky, Warren Zevon, and his latest legal thriller, Identical
Michael Ray Taylor, M.F.A.
Professor of Communication

Identical
By Scott Turow
Grand Central Publishing
371 pages
$16

Note: This interview was originally published Nov. 4, 2014, in Chapter16.org, the website of Humanities Tennessee, a nonprofit agency sponsoring literary events and providing free reviews to Tennessee newspapers.

With nine bestselling novels and two books of nonfiction, Scott Turow, recipient of the tenth annual Nashville Public Library Literary Award, has proven himself a master of the legal thriller. His latest novel, Identical, explores questions of betrayal, family, and identity set against the sweeping political backdrop for which his books are famous. In connection with his acceptance of the NPL award on November 8, 2014, Turow answered questions in a wide-ranging email exchange about his three decades as a novelist, his opinion of Amazon’s dispute with Hachette, the very personal event that led to his novel about twins, and how he uses the Monica Lewinsky tapes to teach dialogue.

Taylor: In addition to writing a string of bestselling novels, serving as president of the Author’s Guild, and contributing essays to leading publications, you remain a practicing attorney. The obvious question is, how do you do it all?

Scott Turow: I’m very selective about what I do as a lawyer and have been for many years. I’m far from a full-time lawyer, and I have a lot of great help in the law office and in my literary office. Finally, I don’t recognize a lot of traditional time borders. I work when I need to and am in the mood. Nights and weekends are not out of bounds. I enjoy everything I do.

Taylor: In September, The New York Times published a story about Campfire, Jeff Bezos’s secretive retreat for top writers. The article describes the way many authors have become uncomfortable with the event because of Amazon’s ongoing dispute with Hachette, a French publisher. As someone who has been an ardent public defender of authors in the global digital marketplace, do you worry about retribution from Amazon?

Turow: No one can look at Amazon’s behavior and think that they would be above retribution. On the other hand, when Identical, my last novel, came out a year ago, Amazon’s editors chose it as the best mystery of the month, so I’m not on some global banned list. Amazon believes that capitalism is like bare-knuckles boxing, and there were authors who were reluctant to criticize them a few years ago. But the Hachette incident has shown that they are your partner only until they need to throw you overboard. I am lucky that I’ve had a long career as a successful author with more good years behind me than lie ahead, and as a lawyer I’ve learned