SWIM
PROJECT
BRIEF

#3

From Understanding Symbols to Constructing Texts that Convey Meaning:
Teaching Students with Intellectual Disabilities to Write as a Means of Communication

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KEY POINTS

> While students with ID may have a diverse range of disabilities that impact their learning, these students can all learn how to write to communicate.

> All students with ID should have access to specialized writing instruction that provides multiple opportunities to learn, uses the student's preferred communication system, and is based on their current understanding of writing to communicate.

> The SWIM projects defines four writing levels based on research-based cognitive models about how students learn to write. The four levels are pre-emergent, emergent, transitional, and conventional.

> The writing levels support teachers in identifying learning objectives to match students' instructional needs.

SHARED WRITING
Instructional Model

Introduction

Writing is a special form of communication in which a person translates ideas and information into a written text that can be read and understood by others. High quality instruction that emphasizes learning how to use writing to communicate is important for all students, including students with intellectual disabilities (ID).


Students with ID are a diverse range of learners, with different interests and strengths. Their intellectual disability may impact their learning in different ways. Students with ID are highly variable across disability classifications, educational setting, and communication and academic skills.[1] Students with ID might experience difficulties in both expressive and receptive communication, rely on augmentative/alternative communication for symbolic speech, or use pictures or gestures for emerging symbolic communication.[2] Students with ID may also have hearing, vision, and/or physical impairments that can impact the way they access writing instruction. Students with ID and sensory loss may struggle to communicate, attend to teacher-directed or computer-directed instruction, and meet high academic expectations.[3]

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Introduction (cont.)

No matter how complex their disabilities, all students with ID can learn how to write to communicate. Thus all students with ID should participate in specialized writing instruction that provides multiple opportunities to learn and is differentiated based on each student's regular communication system and current understanding of how print conveys meaning. Effective writing instruction for students with ID may employ a similar differentiated approach as reading. In reading, educators initially use read-alouds when covering reading comprehension during instruction for students with ID at the emergent literacy level.[4] During read-alouds, educators read a text to the student (orally or through another accessible channel) while facilitating a discussion about the text's content. Read-alouds improve students' text engagement levels[5] and print awareness.[6] As students' word recognition develops, educators shift to using shared reading, in which educators read with their students.[7] It shifts students from focusing on and naming the objects and representations of a text to analyzing the text's content.[8] During shared reading, educators increase the interaction that students have with a text and opportunities to demonstrate their comprehension when reading it aloud.[9] Educators pause to ask the students questions or provide information, have the students relate the text's content to personal experiences, highlight interesting aspects of the text, and elaborate on the students' comments. As students become more skilled at reading, educators transition to using guided reading lessons, in which students expand upon their reading skills by interacting with gradually more complex texts about unfamiliar topics, constructing text meaning, and resolving comprehension issues through problem-solving strategies.[10] Guided reading allows educators to target the specific reading skills necessary to advance students' reading development and help students become effective independent readers.
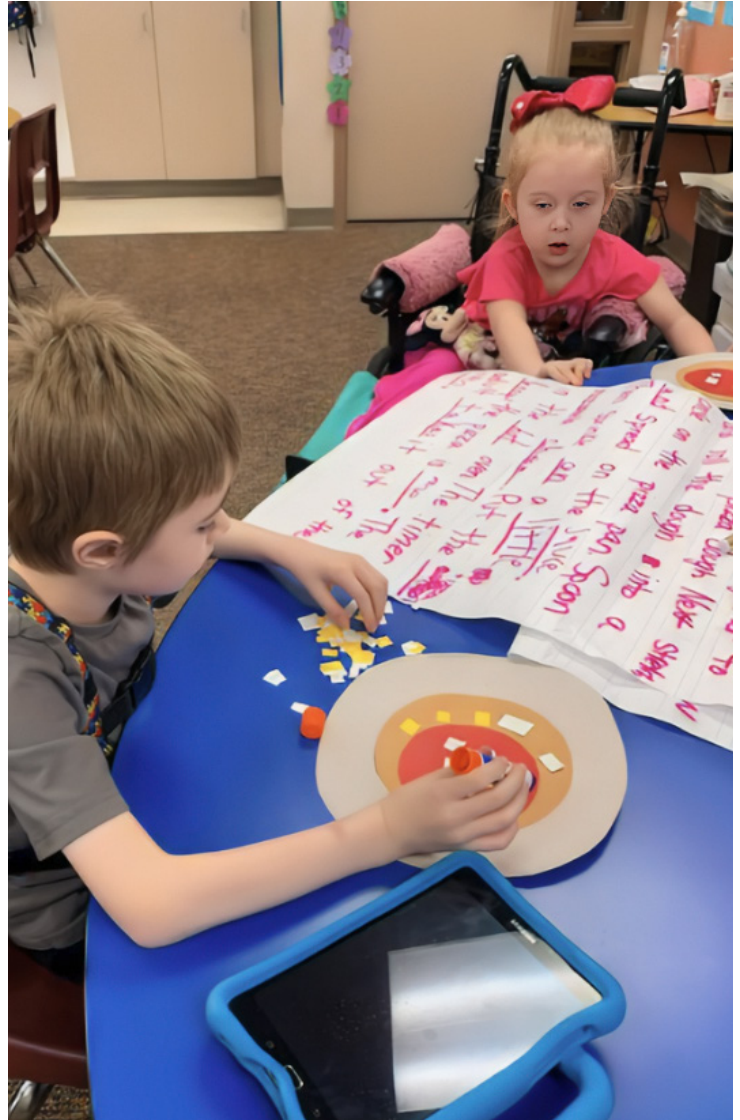
Writing Levels

In the SWIM project we used research-based cognitive models about how people learn to write to define broad levels of writing. These levels help teachers identify learning objectives that are a good instructional match. Teachers then use research-based teaching strategies to help students make progress in their writing process and products, within and across levels along the continuum. The writing levels are not intended to categorize students, but rather to describe the writing-related knowledge, skills and understandings that are most relevant for cognitively engaging instruction.

We use the "writing levels" to describe broad categories of the processes and products of writing of students that are at different points in their understanding of symbol systems.

> At the Pre-Emergent level, students are not yet using symbols as part of their communication system and need a skilled partner to support intentional communication around making choices.

> At the Emergent level, students are learning that symbols have meaning and may recognize print and that it has meaning.

> At the Transitional level, students start using an alphabetic symbol system to convey meaning, although that meaning is not always easily understood by others who are unfamiliar with the student.

> At the Conventional level, students have acquired an alphabetic symbol system (all 26 letters in the alphabet) and are learning more complex uses of the symbols to convey meaning.

This brief describes these four levels in more detail, with examples based on SWIM project participants.

Pre-Emergent Writing

At the pre-emergent level, writers are building their communication skills and conceptual understandings so they can indicate their preferences, make choices between options, and interact with their environments. Early emergent writers are developing their symbolic understanding – that is, the understanding that a symbol has meaning that extends beyond the present context. Students are not yet producing any written product.

Developmental research shows that writers at the pre-emergent level develop their early communication skills through interactions with sensitive and attentive communication partners. Students might initially use gestures, facial expressions, and vocalizations pre-intentionally to communicate with others. They express their feelings and desires through their behavior, such as reaching for or pushing away objects, that their communication partners then interpret and appropriately respond.[11] Students develop their intentional communication abilities by then responding to their communication partners' behavior, thereby understanding how their behavior (e.g., requesting objects or actions) impacts what subsequently occurs (e.g., receiving the desired object or action[12]). With intentional communication, students at the pre-emergent level gradually begin to use pre-linguistic and idiosyncratic vocalizations and gestures and symbolic words and signs to achieve their desired goals[13], promoting their early language abilities.
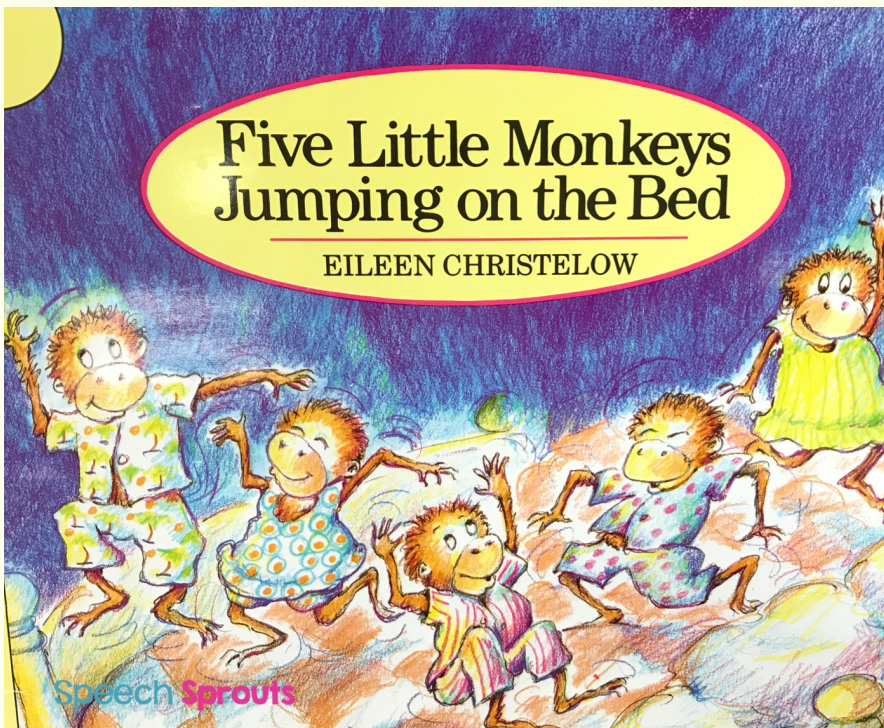

Vignette:

Jeremiah's kindergarten teacher knew he had strong preferences and dislikes within school activities and sensory experiences. Jeremiah loved to jump on the classroom's mini-tramp but did not like playing ball as he would push it away. His teacher also found that Jeremiah loved music, especially nursery rhymes, but not loud sounds. While learning to use an access switch, he would repeatedly "hit the voice activated switch" without waiting for a response. Being attentive and responsive, Jeremiah's teacher noticed that when he approached certain instructional materials and objects his posture would change. If Jeremiah liked something he would tilt his head to the left. If he didn't like something he would put his head down. Using these understandings, Jeremiah's teacher selected the text *Five little monkeys jumping on the bed*[14] for a shared reading experience with an instructional focus of increasing Jeremiah's receptive understanding and use of objects and symbols. She created a small miniature trampoline object then programmed and labeled the switch with the core vocabulary word "like" symbol. Before shared reading, Jeremiah and his teacher listened to the "Five little monkeys jumping on the bed" nursery rhyme song. During the song, Jeremiah's teacher modeled the song's actions through gestures and a classroom core vocabulary board focusing on the words "like" and "on" to encourage his participation. When it came to the time in the song when monkeys were jumping on the bed, the music stopped. Jeremiah's teacher helped him make the connection between words and objects, by touching the object, placing it on the mini-tramp and activating his switch to say "like" and then jump on the mini tramp. Next, it was Jeremiah's turn to jump on the mini-tramp. Jeremiah's teacher next presented him with the object and switch. Though Jeremiah did not select the object, or hit his switch, he did tilt his head to the left toward the mini-tramp, which his teacher understood he "liked" it. Jeremiah's teacher repeated the steps of stopping the music, placing the object onto the mini-tramp and activating his switch to say "like." Justin's teacher let him know she understood he wanted to jump and encouraged him to jump high, which he did with joy, multiple times. Following this experience, Jeremiah and his teacher engaged in a shared reading of the text. On each page when the monkeys were jumping on the bed, Jeremiah's teacher paired the object with the picture in the book and activated his switch to say "like" and each time Justin tilted his head to the left.

Emergent Writing

At the emergent level, writers are learning to choose writing topics; make marks, scribbles, and randomly select letters. Emergent writers may understand that text conveys meaning. Their writing is idiosyncratic, non-conventional, and in some cases, pre-symbolic. At the emergent level students are developing knowledge, skills and understandings that promote the use of conventional writing.[15]

When working on skills in the emergent writing level, writers develop their print knowledge and experiment with print. For example, writers may understand that one or more letters form words and a space separates words in a text. Writers recognize that there is a one-to-one relationship between printed and spoken words and each word has a specific meaning. At the emergent level students also recognize that reading requires moving in a left-to-right and a top-to-bottom direction within and across words.[16] At this level, writers recognize their own scribbles and marks, which are neither drawing nor writing. Writers know those marks are due to their own actions.[17] Writers may supplement their scribbles or marks with talk, gestures, gazing, and other embodied actions that further communicate their meaning.[18] At the emergent level writers understand that writing products represent something; they respond to communication partners' requests to read what they have written.[19]
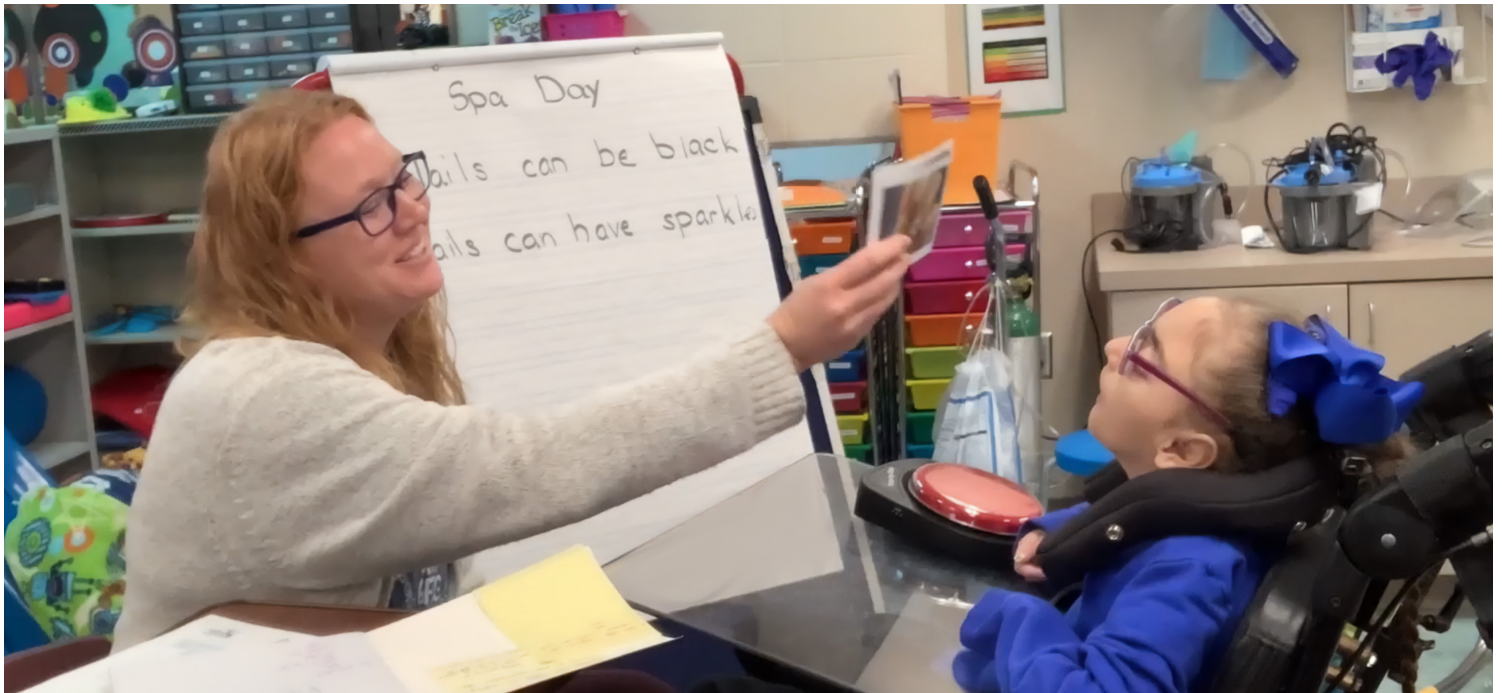
Example: Jane

Jane's teacher offered Jane the choice of several high-interest topics and then worked with Jane's self-selected topic to build student engagement. Jane chose Spa Day, a topic that is especially important to her because she and her mother have weekly manicures together. Once Jane chose the Spa Day topic, Jane used eye-gaze and a single switch to share her experiences about getting manicures. After choosing her topic, the teacher and Jane read a familiar shared reading text to learn more about manicures. While reading the text, Jane and her teacher would stop and engage in a conversation about what was on the page and how it related to the student. Jane's teacher scribed Jane's ideas into a list on flip chart paper so Jane could see the words. From that list, the student selected what she wanted to include in her writing. The teacher created sentences from these words and scribed them onto a shared writing chart. Throughout instruction, the teacher used "think-alouds" to respond to student writing, offered interpretations, asked clarifying questions, and affirmed Jane's efforts related to instructional goals. While writing and collaborating, the teacher used multimedia, objects, and core and personal vocabulary to support Jane as she chose what she wanted to include in her writing. Jane contributed her ideas with the support of her teacher using partner-assisted scanning, eye gaze, and a single switch. Her teacher pointed to each option pausing long enough at each so that Jane could respond "yes" if that was her choice. Jane's final product reads:

Spa Day

Nails can be black.

Nails can have sparkles.

Transitional Writing

At the transitional writing level, writers understand that letters comprise words and that words arranged into texts convey meaning. Their writing does not consistently follow conventions and may use invented spelling. Students may produce texts that are only understandable to skilled, familiar readers such as a teacher or parents. At the transitional level, educators support their students' literacy learning in phonological and orthographic awareness, concepts of print, letter and word learning, and spelling strategies.

At the transitional level, writers focus primarily on learning how to spell words correctly and producing sentences that convey information about a topic. As writers develop better understandings of letter-sound relationships, their spelling gradually shifts from random letter strings to words with an incomplete set of letters that represent all the sounds.[20] For example, at the transitional level a student might start by spelling "cone" as "WT," then "C" or "KO", then "KON." With more experience reading and spelling words, writers form a complete orthographic understanding of basic spelling rules to spell words correctly, even ones with irregular spelling patterns and different types of morphemes (i.e., root words, prefixes, and affixes).

Once writers can spell words using phonological characteristics, they can compose early sentences.[21] They recognize the critical components of written sentences (e.g., subject, verb, and object) and the order in which these components typically occur (e.g., subject-verb-object[22]). With increasing experience and spelling knowledge, they learn the specific components that form a complete sentence (e.g., correct capitalization and punctuation and spaces between words[23]) and use that knowledge to compose sentences that present a complete and easily understood thought even if they are not grammatically correct (e.g., frog jump[24]).

Example: Emma

Prior to shared writing, the teacher and student read adapted texts that retold stories from Lucy Maude Montgomery's *Anne of Green Gables*. To extend her student's learning in a way that related to the stories they had been reading together, the teacher selected a familiar informational text about packing a bag. While reading the text together during different times of the day and different days of the week, and for different purposes, the teacher and student previewed the text and key vocabulary to make predictions exploring text structure and reading for comprehension. The teacher and student focused on core, high frequency words, and words that were important to the topic that included backpack, pool, water bottle, sunglasses, and eyes. They also focused on the concepts of print and sounded out the letters in words. After reading the text, Emma chose to write about packing a bag to go swimming. To plan for writing, Emma and her teacher brainstormed what she would pack in her bag. The teacher modeled core and relevant vocabulary words as they talked through the items. She also provided pictures of items needed for swimming to support Emma in expressing her ideas. While writing, the teacher and the student discussed word choice and different ideas to elaborate on the topic using an easel and chart paper. For the final writing product, the student selected pictures of items to pack and used a letter board with all 26 letters of the alphabet to sound out the letters to type her list.

Wot bacpac (want backpack)

Go pl (go pool)

Put n wotr botl (put in water bottle)

Put un snlgas (put on sunglasses)

Gogls on u (goggles on eyes)

Conventional

At the conventional level, writers use letters and words to produce a text that communicates an idea or opinion that is understandable to others. Students working at the conventional writing level know how to choose topics, make decisions about ideas and information to include what is relevant to the topic, plan for writing, translate their ideas into writing, and review and revise their work.

At the conventional level, writing involves the development, organization, and relationship between ideas and related information about the selected topic for a specific genre or purpose.[25] Writers work on producing complete, grammatically correct sentences with different structures to present this information.[26] Graphic organizers and model texts (e.g., a text clearly depicting the targeted content for use as an example or guide) explicitly highlight common organizational structures and the relationship between the topical information (e.g., sequence, compare-contrast, and argument). These help writers learn and use this information when composing texts for different purposes (e.g., describing or presenting a viewpoint on a topic[27]). At the conventional level, writers use more complex text structures over time as they attend more to local (e.g., a paragraph's topic) and global (e.g., an entire text's topic) topics. Structures range from a list of sentences presenting information about the global topic to more hierarchically organized texts elaborating on the global and individual local topics. Over time, these texts become increasingly coherent and cohesive; writers use headings, link words and phrases, and produce comprehensive summaries. As writers advance, they learn to recognize, differentiate between, and use specific organizational structures when composing their texts to achieve the writing activity's stated purpose and target audience.[28]

Example: Ben

Ben selected the topic of space as part of his comprehensive literacy instruction. As the teacher and student talked about his topic selection, she discovered Ben had a strong interest in space and that he visited the Kennedy Space Center last summer with his uncle and viewed a rocket launch. As a result of his interest, Ben decided to write to inform others about space. He decided that his audience for the writing would be his uncle, who also loved watching the stars through his telescope at night, just as Ben did. Ben's teacher shared with him that his upcoming science unit would be exploring the planets of the solar system, so he would have a head start on the unit. Before reading, Ben and his teacher completed a KWHL chart (e.g., a chart documenting what a student knows (K), wants to know (W), how to find the information (H), and what a student learns (L) about a topic[30]). They used the chart to brainstorm prior knowledge and decide what Ben would want to learn that his uncle would enjoy reading about and how they would learn about space. Ben chose to learn about the planets and how the solar system works by watching a movie and reading a book. While watching the movie and reading the book together, Ben and his teacher took turns writing notes on facts and details about the solar system and its planets and entered them into the L section of the chart. As they planned for writing, Ben's teacher helped him choose the words and phrases that best described his ideas on the facts and details he would use to write about the solar system. Afterwards, with help from his teacher, Ben wrote sentences and grouped them into categories which would then later be turned into paragraphs. In the next lesson, Ben would decide what words and phrases he would use to connect the paragraphs and end their writing.

the. Solar.System revolves ianoundith sun

Conclusion

SWIM is designed to support teachers in providing writing instruction that is best matched to each student's understanding of language and how it is conveyed in print. To move through the levels, students must regularly interact with literate individuals for varied reasons and across multiple situations to become actively involved in acquiring print and language knowledge and understanding how they are connected.[29]Teachers must provide specialized writing instruction that both provides multiple opportunities to learn and uses the student's preferred communication system. Understanding different writing levels can help teachers determine where their student is currently learning and where they are going next.

Endnotes

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Instructional Model

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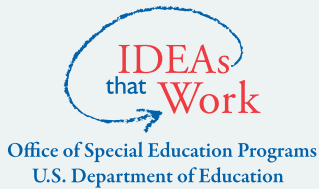
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