

ACCESS! Teaching Writing Skills to Students With Intellectual Disability

Helen I. Cannella-Malone, Moira Konrad, and Robert C. Pennington

Ms. English has been teaching at Smith Middle School for 15 years in a self-contained classroom for students with moderate intellectual disability. When she first started teaching, her instruction was focused on a life skills curriculum. Her instructional priorities included teaching skills such as taking care of oneself, the completion of vocational tasks, and effective communication. In recent years, the federal focus on access to the general curriculum has helped her recognize the importance of adding academic skills to her instructional priorities. She began incorporating more reading and math instruction and is now interested in helping her students improve in their written expression skills.

Most people use some form of writing (e.g., text messaging, e-mailing, social media posting) every day (Lenhart, Arafeh, Smith, & Macgill, 2009). Writing is commonly used for social interaction but also serves as a tool for self-expression (Feldman, 2011) and the acquisition of new skills (Graham & Harris, 2005). Given the expectation that all students receive access to the general curriculum, instruction for students with intellectual disability (ID) must address ways for students to demonstrate content knowledge. Recently, 43 states have adopted the Common Core State Standards (CCSS; National Governors Association Center for Best Practices, Council of Chief State School Officers,

2010), which include competencies related to written expression (e.g., writing narrative text, writing arguments, writing routinely). This broad adoption of the standards precipitates access to high-quality writing instruction for all students. Educators such as Ms. English need to be equipped with effective strategies for teaching written expression to their students with ID. Fortunately, there is evidence to suggest that with proper instruction, students with more intensive support needs can indeed learn to write (Joseph & Konrad, 2009; see Box 1).

The purpose of this article is to provide teachers with tools that they can use to teach written expression to school-age students with ID. These tools are presented around the mnemonic ACCESS: accommodations and assistive technologies, concrete topics, critical skills, explicit instruction, strategy instruction, systematic evaluation. Teachers should consider all six components of ACCESS while planning. They are presented in the order of the acronym, but this does not necessarily prescribe the planning order.

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A: Accommodations and Assistive Technologies

When incorporating written expression skills into the curriculum for students with ID, teachers can choose from a variety of accommodations and assistive technologies to support instruction. These supports can help students to avoid common hurdles to developing cohesive written products, and they have been consistently applied across the research literature (see Table 1).

Supporting Students With Limited Handwriting and Spelling Skills

Students with ID often struggle with spelling (Henry & Winfield, 2010) and the efficient production of handwritten text (Wuang, Wang, Huang, & Su, 2008). Teachers can mitigate these challenges by allowing their students with ID to construct prose using alternate response forms. For example, a student might dictate prose to a scribe or into speech-to-text software. Students with partially developed spelling skills can benefit from access to supports that are widely available to all students. Spell-check and text-to-speech software that are incorporated into popular software (e.g., Apple OS, Microsoft Word) can be used to identify spelling errors and make corrections as students write. Students with limited vocal and spelling repertoires often will require additional supports. For

Box 1. What Does the Research Say About Teaching Students With Intellectual Disability to Write?

Unfortunately, researchers have conducted few studies on teaching writing to students with intellectual disability (ID). Joseph and Konrad (2009) conducted a comprehensive review of the writing intervention literature and identified nine studies that addressed teaching written expression to students with ID. The review reflected the use of a range of interventions (e.g., strategy instruction, computer-assisted instruction, sentence combining) but failed to establish a single evidence-based practice. The authors suggested that many interventions that have been effective for students without ID might be effective when administered with modifications. Similarly, Pennington and Delano (2012) identified 15 investigations of writing interventions for students with autism spectrum disorder. The studies also addressed a wide and diverse range of intervention strategies, including strategy instruction, computer-assisted instruction, modeling, reinforcement of specific writing behaviors, and the use of word banks (selection-based responding). Although both reviews highlight a critical need for research in this area, they also suggest that students with ID can indeed benefit from carefully designed writing instruction.

Researchers have continued to work on developing writing interventions for this unique population of students. For example, Purrazzella and Mechling (2013) used forward chaining and computer-based instruction to teach the manual spelling of words to three students with ID in a small group format. The students acquired the targeted spelling skills but also learned to read words that served as their peers' instructional targets. Pennington and colleagues (Pennington, Ault, Schuster, & Sanders, 2011; Pennington, Stenhoff, Gibson, & Ballou, 2012; Pennington, Collins, Stenhoff, Turner, & Gunselman, 2014) used computer-assisted instruction and simultaneous prompting to teach students to write simple stories. During intervention, students were taught to select words from a bank to construct stories about preferred characters. Following instruction, several students generalized story-writing skills to untrained characters and response forms (i.e., handwritten responses, story telling). Similarly, Pennington, Delano, and Scott (2014) taught students to write resume cover letters through modeling, revision, and a system of least prompts. All students learned to include targeted elements within their letters; they also included those elements when asked to write a cover letter for an unfamiliar job. Most recently, Pennington, Saadatzi, Welch, and Scott (2014) used a robot and simultaneous prompting to teach young adults to include socially appropriate responses within text messages. Students learned to include a greeting, a personal narrative, and a closing statement within the body of texts sent to a communicative partner. Furthermore, they generalized their new skills across partners. These new studies support earlier findings that students with ID can acquire repertoires in written expression when taught via explicit and systematic instructional strategies.

example, teachers can reduce the complexity of writing tasks by providing access to computer-based word arrays (see Figure 1) or printed word banks from which students can make selections to construct their written messages (Pennington & Delano, 2014).

Supporting Emerging Readers

Many students with ID who have limited reading repertoires can still acquire writing skills (Joseph & Konrad, 2009; Pennington, Collins, Stenhoff, Turner, & Gunselman, 2014). In fact, researchers have suggested that reading and writing instruction should occur simultaneously (Graham, Harris, & Larsen, 2001). For these students, teachers can mitigate students' reading difficulties by providing opportunities to manipulate words and phrases supported with age-appropriate pictures. For example, Pennington, Ault, Schuster, and Sanders (2011) taught students to write simple stories

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by selecting cells on a computer that contained words and corresponding pictures. Teachers also can create sentence frames that students can complete to produce written text (see Figure 2). Simple frames (e.g., *I want, I see*) can be taught as a single unit so that the beginning readers can just add new words to construct complete sentences. Data suggest that the use of these sentence frames may support the generalization of newly acquired responses (Hernandez, Hanley, Ingvarsson, & Tiger, 2007). That is, students may use the previous acquired

frames to construct sentences with new words without direct training. Once students construct supported responses, teachers can enlist peers for support in coediting and the production of a final product.

Supporting Planning and Drafting

One potentially helpful support involves the use of graphic organizers to help students organize their prose. Graphic organizers have been used to support students with ID in comprehending text (Lee et al., 2006) and solving word problems (Browder, Jimenez, & Trela, 2012). Teachers can instruct their use in the prewriting process because they may support learners in generating, connecting, and organizing their ideas prior to drafting a text. Furthermore, they can serve as a guide during writing to which students repeatedly refer to when evaluating drafts. Graphic organizers can take a variety of forms, from a series of pictured events to a web of details

Table 1. Assistive Technology to Support Written Expression for Students With Intellectual Disability

Category	Examples	What it does
Low-tech assistive technology	Pencil grips, slant boards	Provides physical support to students as they are writing
Alternate keyboard	Intellikeys	Keyboards can be customized to meet the individual needs of students
Selection-based writing software	Clicker 6, Clicker Sentences, Pixwriter	Provides an array of words or pictures that can be to write; learners can circumvent spelling requirements
Screen readers	JAWS (Job Access With Speech)	Reads text on the screen aloud
Speech-to-text software	Dragon NaturallySpeaking, Siri	Allows a student to speak what they want written, and text will be generated in a computer program
Word prediction software	Co-Writer	Predicts the rest of a word after it has been started by the student
Graphic organizer software	Kidspiration, Draftbuilder	Provides templates for graphic organizers that students can fill in with text and pictures—these can then be transferred to outlines

related to a given topic. No matter the format, teachers must first explicitly instruct students on how to populate and then use the organizer.

When developing drafts, teachers should break down writing assignments into manageable chunks. Rather than providing students with a single writing prompt and a request to start writing, teachers can divide writing tasks into a sequence of separate tasks, including (a) creating a graphic organizer, (b) building an outline from the graphic organizer, and (c) developing a rough draft from

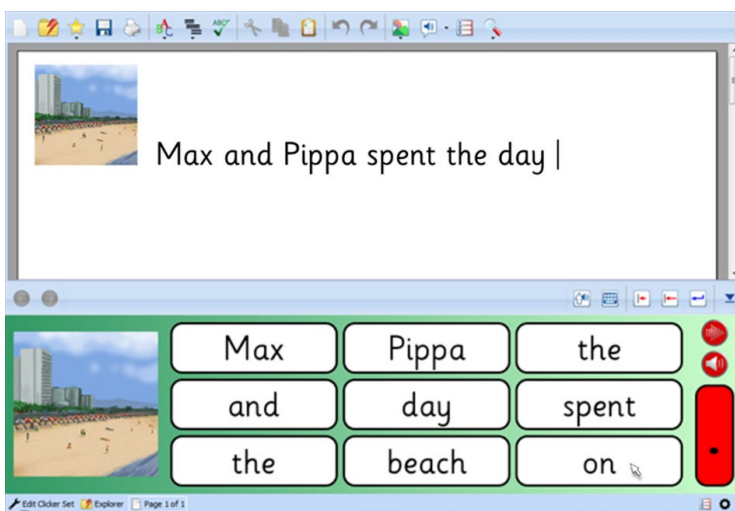
the outline. Students can then work with their peers and teachers to revise, edit, and polish a final draft.

Considering a Range of Available Assistive Technologies

There are numerous other assistive technologies available that can be used to make writing accessible to students with ID. Many assistive technologies are universal, meaning that they are widely available for anyone to use during writing (e.g., spell-check, speech-to-text).

Fortunately, the increased focus on writing instruction and the advancements in technology have resulted in the emergence of more specialized technologies for struggling writers. Table 2 provides a list of assistive technologies specific to writing and a description of what they do. Note that although these technologies offer great promise, they are not the panacea for students’ writing difficulties. Assistive technologies are an important but single element within a high-quality writing program.

Figure 1. Example of computer-based word array (Clicker 6; Crick Software, 2005)




C: Concrete Writing Topics and Experiences

Many students with ID struggle with abstract concepts (Luckasson & Schalock, 2013), making it critical that the topics that they are asked to write about are concrete during initial instruction. Many standard writing prompts address abstract concepts and will require significant adaptation to make them more concrete. Table 2 presents a comparison of typical writing prompts and more concrete versions of the same prompts. In addition to altering the wording of a prompt, teachers can add relevant pictures to support students’ understanding of the prompt or to provide some context for planning a

Figure 2. Possible supported sentence frames with picture and word options. The word options can be changed to meet the physical needs of the student (e.g., laminate, larger, card stock)

Name: _____

Below is the picture you brought in from your summer vacation. Use the starter sentences and word choices to write about your trip.



On my summer vacation, I went to the coast.

beach shore ocean

My favorite thing about my trip was the sand.

water sun beach

I really liked _____.

building sand castles swimming fishing relaxing

This beach trip was _____.

hot amazing relaxing fun

response. For example, rather than asking students about their favorite part of the summer, teachers might instead find it better—and beginning writers, easier—to request that they write about a picture that they brought from home depicting something that they experienced over the summer (see Figure 2).

C: Critical Skills

Teachers of students with ID must teach from the CCSS (National

Governors Association Center for Best Practices, Council of Chief State School Officers, 2010) while also targeting community independence, participation skills, and communication. Wherever possible, teachers should target both academic and life skills during writing instruction. For example, students might write about where they plan to live and the resources that they would need to live there or about the nutritional benefits of certain types of food and the nutritional pitfalls of

others. For writing to be purposeful, individuals first must learn how writing affects others. Therefore, teachers should first design instructional activities that help students write to gain access to preferred items or activities from others (e.g., peers, teachers) and then gradually move into more content-related writing (Pennington & Delano, 2014). Writing also can be infused with opportunities for students with ID to practice their self-determination skills, including choice making, decision making, goal

Table 2. Examples of Typical Versus Concrete Writing Prompts

Typical	Concrete
“Today, there are more and more reality shows on television. Do these shows make good television? Why or why not? Explain your answer using specific reasons and examples” (Learning Express, 2003, p. 5).	What is your favorite television show? Why is this your favorite show? Explain your answer with at least one example from a time that you remember watching that show.
“Describe a typical day of your life” (p. 54).	Describe the steps that you take to get ready for school in the morning.
“Sometimes we take nature for granted. Describe an experience that made you appreciate the natural world” (p. 91).	Describe a time when you enjoyed spending time outside. Include whom you were with, where you were, what you did, and what made it fun.
“Cite a piece of literature and explain the conflict embodied in the work” (p. 133).	Think about the last book you read and its main character. Write about a problem faced by that character and how he or she solved it.

setting and attainment, problem solving, self-awareness, self-regulation, and participation in the individualized education program process (Agran, Blanchard, Wehmeyer, & Hughes, 2001; Allen, Smith, Test, Flowers, & Wood, 2001). Table 3 provides examples of how to target each of these skills through writing. With a little creativity, it is possible to incorporate both the CCSS and life skills into writing.

Finally, teachers must remember that any skill learned in the classroom must be applied and persist outside the school setting. Given the challenges that students with ID face with the generalization and maintenance of skills, teachers should make intentional efforts to address these challenges. Alber-Morgan, Hessler, and Konrad (2007) made several suggestions for planning writing instruction in a way that promotes generalization and maintenance. For instance, teachers can help students contact reinforcers within their environment by teaching them to use social media, by publicly displaying their work, and by teaching them to use writing to access preferred activities or stimuli (e.g., signing in/out of computer lab, creating shopping list). Instructional activities should involve the application of writing skills that require the use of a variety of implements, across multiple settings, for multiple purposes, and to a variety of readers/communicative partners.

E: Explicit Instruction

Decades of research have shown that students with ID benefit from explicit instruction (Browder & Spooner, 2011), which is characterized by the systematic sequencing of lessons, the direct teaching of new content and skills, and guided practice with ample opportunities for students to respond and receive feedback (Kame'enui & Simmons, 1990). Before implementing explicit instruction, teachers should specify a target skill to be learned and create a task analysis of that skill. In other words, teachers should identify and sequence the subskills needed for students to master the broader target skill. Teachers should then assess their students to determine where to begin instruction.

During explicit writing instruction, teachers minimize opportunities for students to make errors. Therefore, as students learn new writing behaviors, teachers should model them carefully and then provide prompts to ensure that students successfully perform the skills and receive feedback. Subsequently, prompts are gradually faded until students can perform targeted skills independently. Several evidence-based response-prompting strategies have been established to teach new skills to learners with ID (Collins, 2012). When using these strategies, teachers generally introduce and then fade prompts by

increasing the amount of time between the task direction and the prompt (i.e., time delay, simultaneous prompting) or by systematically presenting a hierarchy of prompts carefully arranged from most-to-least or least-to-most intrusive (i.e., most-to-least prompting, system of least prompts, graduated guidance).

Researchers have demonstrated that these strategies can be effective for teaching a variety of writing skills (Pennington & Delano, 2014). For example, Collins, Branson, Hall, and Rankin (2001) used a system of least prompts to teach students with moderate ID to write letters in a secondary composition class. They arranged a hierarchy of prompts in the following order: independent performance of the task, verbal direction, verbal direction plus a gesture (e.g., pointing to a line on the paper), verbal direction plus a model, and physical guidance. The classroom teacher asked students to write a letter and then waited 5 seconds for them to start writing the first component of the letter (e.g., header). If a student did not start the task or made an error, the teacher delivered the next prompt in the hierarchy. The teacher and students moved along the hierarchy, with the teacher providing more intrusive prompts only as the students needed them. These explicit instructional strategies are beneficial for learners with ID because they provide students

Table 3. Examples of How to Infuse Self-Determination Into the Writing Process for Students With Intellectual Disability

Skill area	How to target in writing instruction
Choice making	Allowing students to choose writing topics, providing word choices for a fill-in-the-blank template
Problem solving and decision making	Providing personally relevant writing prompts that address critical life issues (e.g., addressing bullying, finding a job, asking a peer to a dance)
Goal setting and attainment	Engaging students in writing IEP goals, transition plans, and personal goals for everyday routines.
Self-awareness	Teaching students to use a checklist to monitor progress on a writing assignment and evaluate their daily performance, provide opportunities for students to write about their feelings in a daily journal
Self-regulation	Supporting students in making adjustments to their written plans when progress monitoring shows that they are not being successful or are achieving the expected outcome more quickly than planned for
Self-advocacy	Having students write an argument letter to convince a teacher or parent to increase privileges
Participation in IEP process	Teaching students to write IEP goals and objectives in sentence or paragraph format, helping them write a presentation to guide the IEP meeting

Note. IEP = individualized education program.

with opportunities to make incremental progress within writing tasks while receiving continuous support and feedback. Students can approach writing tasks with confidence because they are guaranteed to find success during every instructional session.

S: Strategy Instruction

There is strong evidence that struggling writers without ID benefit from approaching writing tasks strategically—that is, having a plan and using or adjusting that plan as they write (Graham & Perin, 2007). Some data suggest that students with ID can learn to use writing strategies through modified and systematic strategy instruction (Joseph & Konrad, 2009; Konrad, Trela, & Test, 2006). Effective strategy instruction is broadly characterized by a description of the writing strategy; clear modeling of the strategy, including a “think-aloud” procedure; multiple opportunities for practice with feedback; and opportunities to generalize the strategy. One such approach to strategy instruction—self-regulated strategy development—includes six stages of

instruction: developing background knowledge, discussing the strategy, modeling it, memorizing it, supporting it, and providing opportunities for independent performance (Graham & Harris, 2005). Although self-regulated strategy development has been well established in the research literature for students with learning disabilities, teachers of students with ID will likely need to make adaptations and incorporate some of the strategies above to meet their individual students’ needs. See Konrad and Trela (2007) for an extensive discussion of adapting strategy instruction for students with ID and Table 4 for an example of this model in practice.

S: Systematic Evaluation

It is important to approach the evaluation of students’ writing skills systematically and thoughtfully. As mentioned above, teachers may consider using a task analysis to identify the important subskills within a broader writing task. For instance, if teaching a student to select responses to complete sentence frames (see Figure 2), some of the critical subskills

might include pointing to the picture prompt, in response to a questions such as “What will you be writing about today?”; reading, with or without assistance, the words in the sentence frames and the choices; selecting the word choice; and placing the word choice on the line. Teachers can use task analyses to create data sheets to record student progress and, specifically, the levels of prompting that each student required to complete a skill or step. These task-analytic data sheets can be used to conduct regular formative assessments, but teachers may choose from a variety of methods to measure student progress. For example, they may measure production by calculating the number of words that a student produces within a given amount of time, or they may count and calculate the percentage of target elements (e.g., character, locale, problem) used within a written narrative. For some students, it may be appropriate to develop rubrics for measuring the overall quality of written products. Teachers should consider collaborating with general education teachers to create or modify existing rubrics for students with ID.

Table 4. Example of Adapted Self-Regulated Strategy Development Instruction for Students With Intellectual Disability

Stage	
Sample instructional activities ^a	Adapted instructional activities
Background knowledge	
Assess students to determine whether they have the prerequisite skills needed to begin learning the writing strategy. Remediate gaps in prerequisite skills through instruction.	Teach students to use assistive technology needed to complete writing tasks (see Table 1). Provide pictures to accompany assessment prompts (see Figure 1).
Discuss	
Discuss the students' current writing performance. Help students select an individualized writing goal.	Show students a writing sample from a peer model and discuss what makes it good writing. Through discussion, have students select from a bank of writing goals.
Model	
Show students how to use the strategy via a "think-aloud." Model positive thinking and self-encouragement.	Provide students with pictures that correspond with each step of the strategy. Provide students with choices of self-statements, and once a statement is selected, pair it with a picture symbol. Intersperse that symbol throughout writing tasks and model how to use it for self-encouragement.
Memorize	
Have students work in pairs to memorize the steps in the writing strategy.	Use picture support for each step. Fade pictures over time. Practice memorizing steps with a peer model.
Support	
Provide students with opportunities to practice applying the strategy collaboratively (e.g., with peers).	Provide systematic prompting as students engage in writing tasks (e.g., least-to-most prompting; Collins, Branson, Hall, & Rankin, 2001).
Independent performance	
Gradually fade support until students can apply the strategy independently. Encourage maintenance and generalization by providing opportunities for students to use the strategy in new settings and across time.	

^aSample activities derived from Santangelo, Harris, and Graham (2008).

Given the complexity of written expression and the resulting diversity of students' writing goals, it is important to use available support personnel when collecting data to monitor progress. Instructional assistants, coteachers, or classroom volunteers can be invaluable in assisting with this data collection, particularly when students are dictating to a scribe. In this case, the scribe serves as the provider of the accommodation while collecting data. The scribe should write words exactly as the student dictates them and make

note of which responses required prompting and which were independently articulated. Keeping track of the amount and type of prompting used can assist teachers in making decisions about when and how to fade prompts to move students toward more independence with their writing. The scribe should record how long the session lasted so that data on quantity and rate can be collected.

The most important aspect of data collection is data-based decision making. The purpose of collecting data is to

improve instruction. If a teacher notices that students are not making progress on the measures that they are collecting, then she or he should look back at all the other components of ACCESS and ask the following questions:

1. Am I providing appropriate writing accommodations? Could my student benefit from additional assistive technology?
2. Am I providing appropriate writing topics and making them clear and concrete?



3. Am I relating writing tasks to other critical skills that are meaningful to each student?
4. Am I teaching explicitly by breaking the writing task down, modeling each component, prompting the student to success, and reinforcing incremental progress?
5. Have I explicitly taught students a learning strategy that can be applied to a variety of writing tasks? Am I reinforcing their use of this strategy, both in my classroom and in other settings?

Ms. English now incorporates writing instruction throughout the day, and her students have begun to actively engage in the writing process. Ms. English has identified accommodations and assistive technologies that each of her students now uses independently. She now modifies writing topics so that they are concrete, and she uses explicit strategy instruction. She also relies on the systematic evaluation of her students'

writing to determine what writing skills to target next. Through this process, she has noticed that her students' levels of self-determination and their motivation to write have increased. Her students are using their newly acquired writing skills in a variety of ways; they are particularly excited when they get to write text messages and blog posts. Ms. English, too, is excited to continue targeting the instruction of written expression with her students with ID.

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Helen I. Cannella-Malone, Associate Professor, Department of Educational Studies
Maira Konrad, Associate Professor, Department of Educational Studies, *The Ohio State University, Columbus*; **Robert C. Pennington**, Assistant Professor, Department of Special Education, *University of Louisville, Louisville, KY*.

Address correspondence concerning this article to Helen I. Cannella-Malone, *The Ohio State University, A348 PAES Building, 305 West 17th Avenue, Columbus, OH 43210 (e-mail: malone.175@osu.edu)*.

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