

WRITING INSTRUCTION AND THE COMMON CORE STATE STANDARDS: INTEGRATING TECHNOLOGY INTO WRITING INTERVENTIONS

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Date Received: 28/082017

Date Revised: 17/02/2018

Date Accepted: 02/03/2018

ABSTRACT

Many children struggle with writing. As a case study, Jane is a fourth-grade student with a learning disability with writing goals and objectives in her Individual Education Plan. Teachers can use students' recent writing samples and questionnaire responses (e.g., what do you find challenging about writing?) as a guide to find tools and strategies that can promote improved skills over time. Mnemonic strategy instruction, as part of step-by-step mini lessons, offers students a means to learn and apply techniques that promote their ability to self-regulate a task, such as writing. In Jane's case, pairing the story mnemonic with technology tools (e.g., an iPad) for planning and text generation within her lessons and activities provided for a significant increase in her texts' content and quality. This article offers an illustrative description of how a student can learn a mnemonic such as story as well a list of app choices to help enrich students' writing lessons with mobile devices.

Keywords: Writing, Intervention Programming, Technology.

INTRODUCTION

Jane is a fourth-grade student of African-American descent. She has a learning disability with writing goals and objectives in her Individual Education Plan. She has demonstrated challenges with idea creation, spelling, formulating sentences, and organizing text. Jane does not like to read on her own. Even after composing a first draft, she finds re-reading on her own to be difficult and is unsure as to how to improve it. While in class, she may not recall all aspects of the lesson about editing a text once the students begin a follow-up activity. For example, the general education teacher had reviewed two story-creation examples with the class. They had discussed the topic, vocabulary, and key points made in the text. The teacher had also provided a graphic organizer where students could fill in the topic and each main point and sub points. This may be sufficient for many typically-achieving students in a general education class, but children like Jane may need even more structure and teacher-guided practice

than this before being asked to compose a text independently.

Many students have Jane's experience. The National Assessment of Educational Progress (2012) concluded that about 75% of students cannot write at a basic level. They need explicit instruction with teacher modeling, guided practice, and step-by-step processes, e.g., a mnemonic strategy such as POW: Plan, Organize, and Write; (Saddler et al., 2004) to manage a writing task (Graham and Harris, 2013). Students who struggle need more than the 1-3 examples that a content/general education teacher may provide for the class. Jane needs teacher modeling of each step as well as seeing and hearing the rationale for learning a mnemonic and why it could help them (Graham and Perin, 2007a, 2007b). As a student in special education, Jane has learned some picture mnemonic strategies for other core subjects (e.g., reading: Itchy's Alphabet; DiLorenzo et al., 2011) and has been told that she can ask for help with writing when needed.

The special education teacher, Ms. Hughes, organized some intervention sessions for Jane. Ms. Hughes began by asking Jane how she viewed writing in a questionnaire (Rhodes, 1993) that posed questions, such as: what is writing? Who do you know who is a good writer? What do good writers do? What do you find challenging about writing? Jane expressed that she did not feel good about writing and needed the teachers' help. Ms. Hughes also reviewed Jane's text from the previous class and others from her writing portfolio (see Table 1 example; Alfonso, 2017). Jane produced only a few simple phrases (18 words), well below the 41 words typical by spring of fourth grade (Intervention Central, 2017). Jane's writing interest questionnaire responses indicated that she did not feel she knew where to start in writing a text.

Ms. Hughes had read some professional journal articles featuring mnemonic strategy ideas (step-by-step directions) for writing stories, which she saved in her tablet for later use with students as part of a set of mini lessons. A mnemonic strategy's specifying a sequence of steps to manage a writing task would help Jane. Ms. Hughes would use Self-Regulated Strategy Development (SRSD) (Harris et al., 2015), which provides a means for students to see the teacher use a mnemonic, have the student commit the strategy's steps to memory, complete a few more examples with student participation, and then have the student apply the mnemonic on their own. SRSD with mnemonic-strategy instruction represents good teaching practice which could help Jane as well as other children better manage curriculum tasks.

In keeping with the Common Core State Standards (CCSS, 2010) and their companion assessments' (e.g., Smarter Balanced, Partnership for Assessment of Readiness for College and Careers (PARCC) emphasizes on digital tools for writing, Ms. Hughes aimed to have texts completed with technology devices (e.g., iPad apps and keyboarding; Berninger et al., 2015). In the CCSS' kindergarten and first grade standards, the phrase "Use a combination of drawing, dictating, and writing to compose..." is included;

Example

I wint fishing. I cout the ferst fish. almost the bigist fish. It wade 16 pounds. It was fun.

Table 1. Jane's Story Typed on an iPad

technology is also referenced: "With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers." By first-grade, the standards include, "use a combination of drawing, dictating, and writing to compose" In second grade, the standards say, "With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers." While printing and hand writing are inferred/described in kindergarten and first grade's standards, digital/technology tools are the methods for writing in second grade and following. Technology tools when paired with step-by-step instruction can be very effective to help children improve skills such as story writing.

1. Story: A Mnemonic for Story Writing with Technology Tools

Story writing typically represents the first formal type of prose that students are asked to create in school. Table 2 offers an example set of Common Core State Standards (2010) for fourth-grade narrative (story) writing. Ms. Hughes found a mnemonic entitled STORY (Dunn, 2015; Dunn and Miller, 2016) that could offer Jane more specific ideas to improve her writing (Foxworth et al., 2016), which includes Graham and Harris' (1989) WWW story-content questions:

Start thinking about WWW, W=2, H=-2 questions

W – Who is in the story?

W – Where does the story take place?

W – When does the story take place?

W – What happens in the story?

W – What happens next?

H – How does the story end?

H – How does the main character(s) feel? How does the other character(s) feel?

Think about your answers and illustrate them.

Organize and say your story out loud.

Example Set of Common Core Standards

CCSS.ELA-LITERACY.W.4.3

Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Table 2. Example set of Common Core Standards for Second-Grade Narrative (Story) Writing

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Revise your text's ideas and type it on the iPad.

You can make edits and read it to others.

Ms. Hughes made a cue card in large print of the story and WWW acrostic phrases for Jane as a reference in the beginning minilessons. The aim was for Jane to memorize story's phrases after a few initial sessions. The WWW content questions cue card could be offered during the entire unit of study.

Ms. Hughes followed the components of the intervention lesson plan (see Table 3). To begin an intervention session with a student who struggles with writing such as a child with a learning disability, Ms. Hughes could offer a student the opportunity to listen to or read a published text so as to hear and see what polished prose is like (Wehmeyer et al., 2017). With Jane's initial writing sample, she demonstrated a need to improve her concept of story structure and complete sentences, as two examples. A published text would offer a concrete example of how these aspects of story writing can be managed. Ms. Hughes included in her choices of published texts those that include African-American characters, theme, or author (Darder, 2016; Wanless and Crawford, 2016).

Technology tools provide a means to access published stories. Many online short story texts exist (e.g., magickeys.com) and with tablet screen readers, any text file (e.g., Word document or PDF) can be made to read aloud to the

user. The teachers discussing the content with the student (e.g., retelling in one's own words, predicting) can help emphasize the story and its key message(s).

Next, a few minutes should be devoted to working with words and sentences (Datchuk and Kubina, 2012). Mobile apps (e.g., UpWords; see Table 4 for other examples) offer the user the opportunity to create the spelling of words from a list of letters, which can be the focus of a game with a classmate, friend, or relative. Emphasizing letters and their correct formation to spell actual words helps the student develop their spelling proficiency and vocabulary. If the student has their own or a district-provided device, they can continue this practice later in the day and evening at home with family members (Hampden-Thompson and Galindo, 2017).

Sentence-creation practice offers students the opportunity to formulate phrases, add descriptive words to make them more elaborate, and combine simple phrases into complex sentences for story writing (Saddler et al., 2008). Technology Rocks Seriously (2017), a website for sentence-creation practice, offers activities for younger children. In the *Who Am I* activity choice, students begin by associating words to their picture meaning and then making more and more complex sentences (e.g., adding adjectives, adverbs, subordinate clauses). Nextsentence, an Android mobile app, has a small group of students each add sentences to contribute to a story text. The app allows the users to create starting and ending phrases. The number of sentences for the story can be preset, which would help the teacher manage the time frame for this aspect of the writing lesson (e.g., five minutes).

Having practiced the spelling of words and formation of elaborate sentences, students can then begin planning their own story text (MacArthur et al., 2012). Writing a story outline, creating a web of ideas, or illustrating ideas as a picture or a cartoon strip are some examples. Microsoft's OneNote and Google Docs are two free examples for doing these types of tasks. On any type of computer/tablet device, a student can use OneNote or Docs to type text, rearrange the phrases if desired, and/or create an image. Students with learning difficulties often have an affinity for the arts (National Center for Learning Disabilities, 2017). Offering children an opportunity to plan their ideas with art

Time (minutes)	Activity
3	Meet and greet
7	Oral reading practice: read or listen to 1-2 pages from a book or story app/website; discuss the reading
5	Spelling practice: students write 3-5 words from the reading; the teacher reviews words and provides corrective feedback
5	Writing sentences: with a pictures (e.g., Pinterest app or website), the intervention specialist has students verbalize some simple sentences. The teacher writes them on a white board. Students copy. The teacher reviews students' writing and provides corrective feedback. Combining sentences: The teacher writes two sets of simple sentences on the white board. Students rephrase each pair into one combined sentence with and, but, or. The teacher and students then each write or type the new combined sentence. (Alternate sessions between writing and combining)
25	Plan and write connected text using STORY.

Table 3. Example 45-minutes Lesson Plan for a Writing Intervention Session

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iOS Apps	Android Apps	Web
<p>Smarty Writer</p> <p>Smarty Writer provides students with a sequence of images that they then use with their imagination to write up the story.</p>	 <p>Simple note</p> <p>Simple note is a free note taking app that can be used via the web or any mobile device</p>	 <p>Technology Rocks Seriously</p> <p>TRS offers activities for building and creating complete sentences with oral options for use with the whole class or individual students.</p>
<p>Story Builder</p> <p>Story Builder help improve paragraph formation, integration of ideas, and to encourage higher-level of abstractions by inference.</p>	 <p>Sticky Speech</p> <p>Sticky Speech is a voice to text note-taking application that uses Google's speech transcription engine to accurately transcribe your spoken note and store it for easy access.</p>	 <p>TechnoLogic</p> <p>Word Jumble is a great activity to introduce example sentences and it allows students to think about sentence structure.</p>
<p>RB Sentences</p> <p>RB uses color coding to help students recognize and understand how combinations of words and phrases create basic sentence structure.</p>	 <p>Next Sentence</p> <p>Create entertaining stories with friends using Next Sentence a social writing game – perfect for parties, designed for all ages.</p>	 <p>Story Writer</p> <p>Story Writer provides a progressive set of activities that results in a student creating a published text.</p>
<p>Toontastic</p> <p>With Toontastic 3D, a student can you can draw, animate, and narrate your own cartoons.</p>	 <p>Book Writer</p> <p>Be creative, write books and stories. Each chapter's progress is stored as a different versions.</p>	 <p>Edublogs</p> <p>Edublogs is a fully customizable WordPress platform for you're an entire class, school, or district.</p>

Table 4. Mobile Applications and Website Examples for Sentence Writing and Extended-prose Generation

helps to compensate for spelling and text-generation difficulties while trying to formulate a story line. What a teacher or other student sees as a simplistic drawing can be intricate and meaningful for the writer; pondering and adding to a drawing can render an elaborate idea as the author is "seeing" the image (Patterson, 2011). The art and text files' content can be saved in the cloud for the student to later access at home and at school the next day. Family members can help students at home by discussing their writing, reviewing their texts, and offering feedback on the content and quality of the student's prose.

Having created an outline of ideas, a good next step is for the student to voice the intended text aloud to oneself, a classmate, or the teacher (Dunn, 2015; Dunn and Miller, 2016). This allows the student to hear a first full draft of the content and make initial edits to the words, structure, or flow of the text. Students can use speech-to-text software (e.g., SIRI, Cortana) to generate a second oral draft. Students can work in pairs such as with Peer-Assisted Learning Strategies (2017) to offer feedback about story structure, content, sentence phrasing, and spelling. This can then form the basis of review and edits for a final copy.

Table 5 illustrates Jane's improved writing after using story with these strategies. She demonstrated noticeable progress in her content and quality of text. Her final text included 139 words in multiple paragraphs with a more developed story structure as compared to her initial (Table 1) text. Jane could still add more content to address how the characters felt at the end of her story. Addressing some syntax errors and combining sentences together to make paragraphs would provide improvement too. Ms. Hughes' step-by-step directions, the story mnemonic's guide for self-regulating the task, reviewing published stories, practicing spelling and elaborate sentence writing, planning with visual art, and speaking a first draft all helped Jane result in her improved writing.

2. Discussion

Jane is representative of many students with a learning disability who struggle with writing. Her beginning writing level with few ideas and minimal text demonstrated that she would benefit from a more intervention-based approach to instruction (Harris et al., 2015). Explicit instruction in the aspects of writing can help a student develop a more self-regulated process to independently

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Visual Story Plan and Spoken Draft Text

Final Typed Text



There was three cats. One was named Midnight. One was named Pinky. One was named Waffles. Midnight was very serious and wise. She was the leader of the group. The other two were very hyper and didn't know how to lead anything at all. Midnight was a black cat with green eyes. She looked very different from the other two. The other two looked like rainbows mixed together. Pinky and Waffle were sisters. Midnight was not related to them in any way. So here is their little cat adventure:

One day while Midnight was sleeping soundly in her bed, pinky was annoying her as usual. Midnight woke up and gave her a confused look.

"What is it now?" she said.

"We need your help with something," Pinky said a bit nervous.

"With what?," Midnight answered.

Pinky answered, "when we were walking in the woods we saw something scary. D you know something that is huge that has floppy ears and a collar?"

"It's a dog," Midnight answered.

Then she went back to sleep.

There was 3 cats one was named midnight one named pinkie and waffles. Midnight was very serious. She was the leader. The others were very hyper and didnt know how to lead anything at all. Modnigh was a black cat with green eyes. She looked very different from the other two. They other two looked like if you mix rainbows together. Here is their little cat adventure.

One day while midnight was sleeping soundly in a soft bed pinkie was annoying her as usual. She gave her a curious look.

She said "what is it meow"

"We need your help with something"

"with what?" Midnight answered.

"we were walking in the famous woods and saw something scary. Do you know something that is huge has floppy ears and a collar?"

"Its a dog."

Then she went back to sleep.

Table 5. Jane, End-of-intervention Session's Story Text

manage writing tasks (Graham and Harris, 2013). Teacher modeling and the guided practice that follows during the "teaching" lessons of a new mnemonic such as Story offer Jane a means to see and hear what good authors do in the writing process.

Idea generation is often a real challenge for students like Jane (Foxworth et al., 2016). Teachers need to be open to trying strategies for planning that do not require text generation. Jane's use of the art app on the iPad and then voicing her story draft ideas aloud provided a means to finesse her ideas before she began spelling words and sentences. The visual story plan does not require her to read and decode ideas. Rather, Jane could see and imagine her picture story line as a visual sequence for generating text.

The Common Core State Standards require students to use technology tools for writing beginning in second grade. This is a question of ongoing debate. Berninger (2013) suggests that keyboarding can be as effective as handwriting if students are first given the opportunity to develop automaticity in the skill. This may be a limitation of Jane's learning the story mnemonic with keyboarding as a second-grade student. Handwriting may be a more conducive to young children's motor skills. Yet, for Jane who had a learning disability, visual-motor integration often makes handwriting difficult, illegible, and short in length. Future research could explore students' perspectives about handwriting versus keyboarding and how their texts compare in alternatingly using the two modalities.

Note: Jane's case profile was developed from two authentic cases from the author's intervention projects with students.

Conclusion

Writing may be considered the most challenging academic task as compared to the other core subjects (reading, math). A writer needs to generate ideas, plan a text, make a first draft, re-read one's own writing, make edits, and produce a publishable product. With 75% or more of students demonstrating low proficiency in writing, teachers will need to have a more intervention-based approach to teaching. Also during this time, provision of technology is required by the Common Core State Standards and students' access to it is increasing. Integrating technology tools, in tandem with mnemonic strategies, can empower instruction as well as students' ownership of writing improvement.

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