Click, See, Do: Using Digital Scaffolding to Support Persuasive Writing Instruction for Emerging Bilingual Learners

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This article uses a persuasive writing example to showcase how digital technologies can be used to support all students, especially emerging bilingual learners, as they learn genre-specific norms for writing.

Introduction

Persuasive opinion-based writing is a type of argumentative writing in which the writer tries to convince others of their own position or opinion. Learning the genre-specific methods or expectations of persuasive writing is important for reasons that go beyond the standards-based requirement to do so. In an era of fake news, readers are constantly exposed to content that is written to persuade them to share others' views or expectations on a vast array of topics (Farmer, 2019) that may or may not be based on evidence or fact. Conversely, due to the availability of online platforms, including social media, that enable the easy distribution of opinions and ideas to broad audiences, writers also have extensive opportunities to share their views and opinions and to try to convince others to share them. In many ways, teachers and scholars have celebrated the changes that have been brought about by the internet, drawing attention to ways the internet has made knowledge more collaboratively constructed, more distributed, and less author-centric. This change has given voice to groups of people that have historically been marginalized or have not had a platform for sharing their views and lived experiences. Yet, it has also enabled people everywhere to try to persuade others to believe or claim ideas that can be harmful (Von Gillern et al., 2022). For these reasons, and more, it is essential that students have a strong understanding of the genre-specific methods for persuasive opinion-based writing and how to construct effective persuasive arguments of their own.

Yet, previous research shows that persuasive opinion-based writing is a particularly difficult genre for students. Researchers have identified multiple factors that may impact the quality of students' persuasive writing. Two related factors impacting writing quality are the extent of the student's prior knowledge of the topic under consideration and the knowledge of the expectations of the genre (Ferretti & Lewis, 2019). Ferretti and Lewis found that greater knowledge of the topic being written about and greater genre-specific knowledge both led to higher quality persuasive essays. Additionally, stating an opinion and supporting it with convincing reasons can be more cognitively demanding than other types of writing (Schen, 2013). Linking all these aspects of the writing together requires careful attention and self-monitoring (Boyle & Hindman, 2015). Accordingly, the purpose of the research presented here was to understand how an interactive technology-based graphic organizer could be used to support students in beginning to learn the genre of persuasive writing.

Persuasive Writing and Emerging Bilingual Learners

In the context of US schools, emerging bilingual learners are students that speak a language other than English as their first language and are becoming bilingual in English. Bilingualism is an asset for these students since research has shown that learning a second language can result in

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increased mental flexibility and ability to process and discriminate different speech sounds (Espinosa, 2015). Further, emerging bilingual students are also bicultural, which means they are likely to have greater awareness and respect for cultures and customs other than their own. While students are emerging in their English development, they are likely to need additional supports to learn genres of writing, particularly persuasive writing, which is a challenging genre for all students (Ferretti & Lewis, 2019). Specifically, research indicates that emerging bilingual students may need support building background knowledge of writing topics since researchers have found that prior knowledge of a topic can significantly impact the quality of a written composition (Ferretti & Lewis, 2019). When writing persuasive essays, the author must have sufficient and relevant understanding of the topic. Since emerging bilingual learners may still be developing their knowledge related to some writing topics due to differing cultural experiences, writing instruction should include approaches to building topical background knowledge, which may be beneficial for all students.

Further, since effective word choice and strong vocabulary knowledge are particularly important for persuasive writing, instruction should also include additional support in these areas. Writing a high-quality persuasive essay requires the writer to use a wide range of words and understand the pragmatics of their use. Since emerging bilingual students are still developing their knowledge of the English language, they may need support in this area when writing in English.

Although persuasive writing is a difficult genre, researchers have also demonstrated that there are many instructional strategies that can support all students writing in this genre, regardless of language or ability. First, we know that instruction on persuasive writing needs to be delivered systematically and with numerous scaffolds in place to support varying learner abilities and needs (Graham et al., 2015; Harris et al., 2008; Rogers & Graham, 2008). Here, we use the term scaffolds to refer to strategies, materials, tools, or instructions that break tasks into smaller parts and allow the learner to proceed one step or part at a time rather than looking at the task as a whole without any steps or support strategies. Researchers argue that scaffolds should be tailored to the task and individual student needs in the form of dialogue, materials, and technology (McLeskey et al., 2017; e.g., modeling, cue cards,

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PAUSE AND PONDER

- In an era of ubiquitous access to online platforms for authoring and sharing information, why is it important for students to understand the genre of persuasive opinion-based writing and how persuasive writing is constructed?

- What factors should be considered when choosing digital technologies to support writing instruction?

- What are some ways that teachers can go beyond the use of word processing applications to support student learning in the area of writing?

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graphic organizers, and checklists). We also know that prewriting and preplanning improve outcomes in the persuasive writing genre (e.g., Hauth et al., 2013; Rodríguez et al., 2015). Further, teachers can use prewriting to help students access their culturally situated knowledge and draw parallels to the topic (González et al., 2005).

Using Digital Technologies to Support Persuasive Writing Instruction

Understanding the difficulties that all students, including emerging bilingual learners, may face in learning the persuasive writing genre, we argue that digital technologies may be useful instructional tools for several reasons. First, digital tools enable teachers to provide systematic but flexible tasks that can be individualized for students (Mahoney & Hall, 2017). Additionally, digital technologies can be used to offer instructional support tools and resources that are immediately available to students at the time of need (Hutchison & Colwell, 2014). Digital tools may also house instructional audio or video files that enable students to learn more about various aspects of writing or listen to instruction again as needed (Hutchison & Colwell, 2015). Digital tools can be designed with embedded prompts to remind students of concepts from previous instruction or prompt them to complete or revise a portion of their writing (Van Alten et al., 2020). Digital technologies also hold promise for enabling students to use self-regulated learning strategies such as goal setting, self-monitoring, and self-evaluation (Hughes et al., 2019).

Accordingly, the questions guiding our study were:

1. In what ways can the use of a digitally enabled graphic organizer (called the Technology Based Graphic Organizer) enhance emergent bilingual students' persuasive opinion-based essays?

2. In what ways do the digital scaffolding and support features of a digitally enabled graphic organizer assist teachers and students during persuasive writing instruction?

Study Context

Based on our understanding of the difficulties students may have in learning to compose effective opinion-based persuasive essays and the ways digital tools can be used to

provide support, we developed an interactive, digital graphic organizer that provides digital scaffolds for students as they learn how to compose persuasive essays. This tool, called the Technology Based Graphic Organizer (TBGO; https://wego.gmu.edu/wego/graphorghtml/graphorg_p.php), was developed for upper elementary students and contains embedded evidence-based supports to address known difficulties in several strategic ways. Additionally, the TBGO was designed with flexible levels of support so that it can be used with a range of students, including general education students, special education students, and emergent bilingual students. For example, students can select their personal goal for any given essay and the TBGO adjusts accordingly, providing more or less scaffolding based on the goal selected. The primary features of the TBGO are discussed in the next section. However, it is important to highlight that the significance of this work lies not in this particular digital tool, but rather in the features included in its design. We wish to note that many of these features can also be found in various other digital tools.

Features of the Technology Based Graphic Organizer

The TBGO Is not only Systematic and Explicit but Also Flexible Enough for Personal Writing Goals. The TBGO is designed to strategically guide students through the writing process, with focused attention on the specifics of persuasive opinion-based writing. Further, it empowers learners to set their own goals for writing, which makes it appropriate for students at varying levels of readiness. The TBGO also allows students to make their own choices by selecting one of the two writing prompts to answer. For each new essay part, there is a drop-down menu with a word bank to help students learn a variety of transition words for moving between ideas.

The TBGO Includes Embedded Instructional Videos Aligned with the Writing Process.

Just-in-time videos are embedded into the TBGO to provide instruction on individual components of writing a persuasive opinion-based essay. Students can access the videos as needed, or teachers can assign them when they see a student needs help in a particular area. The video series includes two super writers as the main characters (a boy and a girl) who are silhouetted so that they do not appear to be any particular race or ethnicity. The videos were developed and pilot-tested with both teachers and students to ensure that they were maximally engaging and motivating for students. The following topics are covered in the videos:

a Introduction to persuasive writing
b Selecting a topic
c Brainstorming
d Identifying your opinion
e Determining reasons for your opinion
f Elaborating on your reasons
g Summarizing
h Revising your writing
i Editing your writing

The TBGO Provides Scaffolded Supports. Once students complete each individual section of the TBGO, their writing is automatically combined into a paragraph that they can hear read aloud via text to speech. Students can use this feature to listen for omitted words and to consider if their essay makes sense. Additionally, the TBGO provides students with cognitive prompts and feedback as they progress through the writing process. For example, a pop-up question will appear if students have not met the writing goal they selected from a drop-down menu. Text hints appear throughout the TBGO to remind students what should be included in each essay part. Also, the TBGO prompts them to notice words that are repeated often and consider alternative words and identifies misspelled words.

The TBGO Promotes Self-Regulation, Including Self-Monitoring and Self-Evaluation. As students use the TBGO, they are regularly prompted to reflect and self-monitor to determine if they have included all the necessary components of their essay. Before they submit their written composition, they are asked again to evaluate whether they have included key content, such as a topic sentence with an opinion, different reasons, details and adjectives, transition words, capital letters, ending punctuation, and more, and whether they have listened to their essay being read aloud.

Classroom Context

This study took place in a mid-Atlantic, multi-age, self-contained classroom consisting of three emerging bilingual students learning to speak English as a second language. The class was taught by Mrs. Sanchez (all names are pseudonyms), who has 11 years of experience teaching emerging bilingual learners.

During our study, Mrs. Sanchez used the TBGO with its videos and teacher dashboard as the main resources for her primary instruction for a period of 5 weeks to guide students in composing persuasive essays. Before using the TBGO, students were asked to use Google Docs to compose an essay in response to a persuasive

writing prompt to provide the teacher with information about students' understanding of persuasive writing. Students were given a choice of two prompts so they could select the prompt most relevant to them. Then, the instruction began with a video that is embedded into the TBGO and explains the persuasive opinion-based writing genre, followed by students composing their first essay. The essay was evaluated and scored by the teacher in the Teacher Dashboard of the TBGO and the teacher then used the embedded data-based decision-making guide to determine which embedded digital resource students should use next to work on an aspect of their writing that she identified as an area of need. Examples of embedded resources included focused mini-lessons that could be taught by the teacher, genre videos, and how-to videos. This process continued until students had practiced composing several persuasive essays. Throughout this period, the teacher demonstrated how the structure and tips provided within the TBGO could be applied to other types of writing when students are writing without the TBGO.

Subsequent to this instruction, students again responded to a prompt to compose a final persuasive essay, with and without the TBGO. This process allowed us and the teacher to compare the extent to which using the TBGO enhanced their understanding of the persuasive writing genre and their composition of persuasive opinion-based essays. The ultimate goal of having students use the TBGO was to enable students to transfer what they learned from using the TBGO to other writing contexts. Thus, students wrote their final essay without the TBGO so that we could determine if they maintained their progress and were able to transfer ideas learned from the TBGO when writing without a digital scaffold. We present our findings subsequently.

Data Analysis: How we Evaluated the Writing and the Usefulness of the TBGO

Each student essay was reviewed with a rubric designed for opinion-based persuasive writing. The rubric consists of several descriptive categories for determining (1) whether the student has identified their opinion, (2) whether and how extensively the student has provided reasons for their opinion, (3) whether and how extensively the student has elaborated on their reasons, (4) how effectively the student used transition words, (5) how well the student summarized their opinion and/or ideas at the end of the essay, (6) the quality and variety of word choice, and (7) the extent to which the student has used correct grammar and spelling, punctuation, and capitalization. Using these categories on

the rubric, students received a writing score and the teacher determined the areas where students would benefit from additional instruction to grow their knowledge and skills of persuasive writing and assigned students to watch videos that are embedded into the TBGO or provided individual or small-group instruction using instructional guides that are accessible through the Teacher Dashboard. Additionally, we conducted classroom observations and interviewed Mrs. Sanchez to understand her perceptions about how the TBGO contributed to her instruction.

What we Learned
Mateo

Mateo is an emerging bilingual newcomer to the United States and most recently scored at the Entering level (level one of six) on the World-Class Instructional Design and Assessment (WIDA) group's ACCESS for English Language Learners (ELLs) assessment. When Mateo responded to one of the two writing prompts before using the TBGO, he wrote nine words and scored an 8 out of 36 because he was not able to clearly identify his opinion and construct his ideas into an essay. On his initial essay he wrote the following: "10 year olds no house because they are small," with no punctuation. Using this information to gauge Mateo's knowledge of the persuasive writing genre, vocabulary, and of grammar and mechanics, the teacher introduced the TBGO to Mateo and had him watch several of the embedded videos and write with the TBGO. After 5 weeks of writing with the TBGO, Mateo had produced seven compositions. At the end of the 5 weeks, he was again assigned a choice of two writing prompts to evaluate his writing with the TBGO. On this second writing assessment, Mateo showed significant improvement, writing 31 words in English and scoring 28 points. On this essay, he was able to identify his opinion, identify three reasons for his opinion, appropriately use transition words, summarize his ideas, and improved his spelling, punctuation and capitalization. Figures 1 and 2 show a comparison of Mateo's initial and final essays. Further, Mateo maintained this growth when writing without the TBGO 2 weeks after the instruction, earning a score of 17/36 and writing 41 words, as compared to nine words and a score of 8 on his initial essay. Although Mateo still has room for growth, these essays clearly illustrate how his writing improved when using the TBGO.

Isabella

Isabella is a female Latina student who speaks Spanish as her first language and English as her second language. She recently scored at the Emerging level (level two of six)

Figure 1
Mateo's Written Composition before Using the TBGO

Figure 2
Mateo's Final Composition after Using the TBGO

on the WIDA ACCESS for ELLs assessment. When Isabella responded to one of two writing prompts before using the TBGO, she initially wrote 31 words and received a score of 9 (out of 36). In her initial essay, she was able to identify her opinion, writing "I think that they should live [sic] the kids at home," but did not include punctuation at the end of this sentence. She followed this opinion with one reason, writing "the kids they might get hurt or something really dangerous could happen in the end," and included a period at the end of this sentence. She did not elaborate on her reasons, use transition words, or summarize her ideas. She capitalized the first sentence, but not the second one.

After 5 weeks of writing with the TBGO, Isabella had produced nine compositions. At the end of the 5 weeks, she was again assigned a choice of two writing prompts to evaluate her writing with the TBGO. On this second writing assessment, Isabella wrote 88 words and received a score of 32 (out of 36). Unlike the first essay she wrote, Isabella

was not only able to clearly identify her opinion but was also able to list three distinct reasons for her opinion, elaborate on each of the reasons, and use multiple transition words to shift between ideas. Additionally, her word choice, capitalization, and punctuation improved. Figure 3 shows her first essay and Figure 4 shows her final essay with the TBGO. Isabella also maintained her progress when writing without the TBGO, scoring 24 points as compared to 9 points on the pretest. These essays clearly illustrate that Isabella's understanding of the elements of persuasive writing improved.

Alejandro

Our final student was Alejandro, who is a Latino student who speaks Spanish as his first language. Alejandro recently scored at the Developing level (level three of six) on the WIDA ACCESS for ELLs assessment. Alejandro's initial essay was more developed than that of the other

Figure 3
Isabella's Essay before Using the TBGO

Selected Prompt:
Some believe 10-year old kids should be able to stay home by themselves. Using specific details and examples to support your position, argue whether or not 10-year old kids should be able to stay home by themselves.

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I think that they should live the kids at home because it will happen

Something to the kids they might get hurt or something really dangerous could happen in the end.

Figure 4
Isabella's Final Essay with the TBGO

Selected Prompt:
Some people believe that art class is more important than P. E. class. Using specific details and examples to support your position, argue whether art class or P. E. class is more important.

Isabella's Response:

Art is better then p.e First, you can express your feelings in art by painting and doing fun stua. For example, it makes me feel good when i'm painting. Then, in art you can be creative. For example, you don't know what you're doing but it turns out good. Lastly, in art there are that tools you don't know and more supplies. Specifically, learn about cool and new things. To summarize, art is much better because you use cool tools and be creative and makes you feel better.

two students and he earned a score of 16 after writing 76 words. In his initial essay, he was able to identify his opinion, but was only able to provide one reason for his opinion. He was also inconsistent in his capitalization and the quality of his word selection.

By his final essay with the TBGO, Alejandro wrote 199 words and received a score of 33 out of 36 (Figure 5). As can be seen in Figure 6, by his final essay with the TBGO, Alejandro was able to clearly identify his opinion, identify and elaborate on three reasons for his opinion, use transition words, and improve his spelling and punctuation. He maintained this progress when again writing without the TBGO, scoring 30 points (compared to 16 on the pretest) and writing 170 words when writing without the TBGO 2 weeks after the instruction had ended.

How Digital Scaffolding with the TBGO Supported the Teacher and Students during Persuasive Writing Instruction

To understand how the TBGO supported students in improving their persuasive opinion-based essays, we interviewed the classroom teacher, observed students as they worked, and reviewed student writing samples. There were several key features of the TBGO that provided needed support for students. These are outlined here.

The TBGO Encouraged Reluctant Students to Activate Prior Knowledge and Brainstorm

The first way the TBGO helped enhance students' written products was by prompting them to brainstorm about their

Figure 5
Alejandro's Essay before Using the TBGO

Figure 6
Alejandro's Final Essay Using the TBGO

prior knowledge of possible topics. The TBGO includes a series of steps prompting the student to prepare for writing, the first of which is selecting a suitable prompt when given a choice of two or more prompts. To support students in this process, the TBGO includes an embedded instructional video demonstrating how to select a prompt based on one's prior knowledge and personal interest in the topic (see Figure 7). Figure 7 shows a screenshot of a clip of the video that models how to brainstorm about prior knowledge of two given topics to select a topic for which the writer has a sufficient amount of information for writing about the topic.

The video in Figure 7 can be accessed at any time by clicking on the lightbulb shown in Figure 8. Further, Figure 9 shows an example of how students are guided within the TBGO to determine whether they know enough about the two topic choices to pick a side and to consider if the topic is interesting to them.

Once students have selected a topic, they are guided to brainstorm about their chosen topic (See Figure 9). Again, a video is embedded into this section of the organizer that models various ways to brainstorm before writing, and the TBGO prompts students to indicate which option they chose. Mrs. Sanchez, the teacher, spoke in her interview about the usefulness of this feature, indicating that students often "don't want to take that extra step," and that "having that little check" prompts them to do it. She said:

Figure 7
Screenshot of the Video about Selecting a Prompt

Figure 8
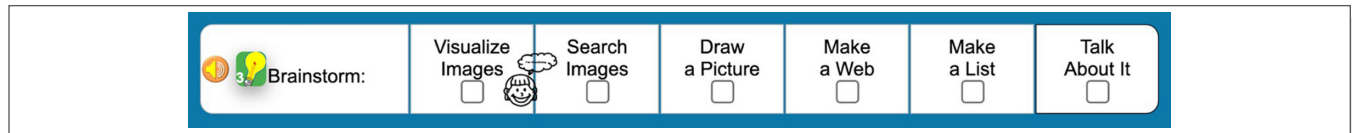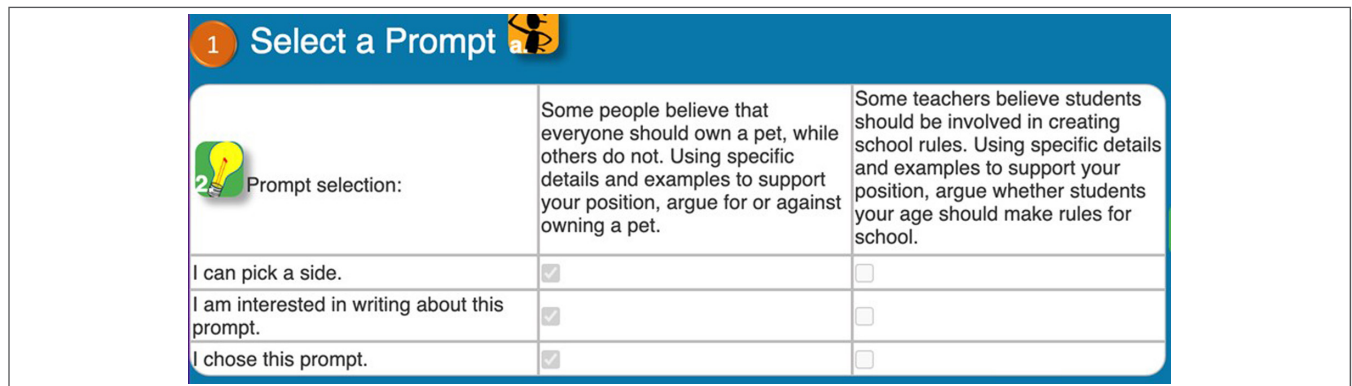**Screenshot of the Brainstorming Component of the TBGO**

Figure 9
Screenshot of the Prompt Selection Feature of the TBGO

In the beginning they needed some instruction. They're like, what? What's brainstorming? What am I doing? But, over time, students used brainstorming as an opportunity to write down key words and phrases that they referred back to as they wrote and their brainstorming became a valuable tool that assisted them in translating their ideas into words.

She identified this feature as setting students up for success in being able to provide reasons to support their opinions.

The TBGO Made Essay Organization more Manageable

The TBGO is designed around the writing process and guides students through the writing process strategically, with focused attention on genre-specific expectations for persuasive opinion-based writing. Even with this systematic, explicit design, the TBGO also provides students with many opportunities to be metacognitive about their own learning and to choose writing goals that are appropriate for them. As shown in Figure 10, each time a student writes with the TBGO they choose an overall essay goal and also select a goal for how detailed the essay will be, with the idea being that students can gradually increase the amount of variety of details they provide. Mrs. Sanchez found this feature to be of high value for her emergent bilingual students, stating that the option for her students to choose their own goals and choose the number of explanations they would provide in their essays (i.e., one, two, or three) or what writing skill they wanted to work on made it more manageable for her students and personalized the learning experience in an important way.

Mrs. Sanchez also indicated that the scaffolded structure of each part of the essay was an important feature of the TBGO. She stated:

> I [previously] used to use the hamburger paragraph idea where it's the top one and the three details and then expand that to try to do the essay. So [I had to do] a lot of modeling, step by step. It would take forever to write one piece. The [TBGO] structure helped them remember that they need to stay on topic…and have their reason and then their explanation. I love that they could choose between…only one reason or explanation or three reasons and explanations. So by the

end, my strongest student was doing the three and three, whereas especially for the newcomer, I could still make it more manageable for him.

Figure 11 shows an image of the main body of the TBGO and how it incrementally guides and prompts students to identify their opinion and to list and elaborate on their reasons.

Of note, the box in Figure 11 that says "Choose an item" contains a drop-down menu of transition words for students to choose from to ensure they transition smoothly between ideas. Mrs. Sanchez also found this to be a valuable support features, stating:

> I love that part. And then I created a transitions poster to kind of help them when they weren't using that [feature], because that's…one of the biggest things; staying on topic and then using those transition words. So they're not starting every single sentence the same. Right? And they have some variety. So I really like that.

The Embedded Videos and Instructional Features Supported Students

As previously mentioned, the TBGO includes embedded instructional videos that align with the writing process and provide additional instruction as needed. Regarding these videos, Mrs. Sanchez stated:

> We did use quite a few of the videos, too, for like, reteaching things after we did the analysis. And they were good, too.… sometimes it's hard to find videos that appeal to them and they were pretty willing.

Further, the TBGO includes embedded text-to-speech support that enables students to hear their written work read aloud to them. Mrs. Sanchez indicated that she could frequently hear her students use this feature, stating "… they realized they were missing even just a small word, and then they would go back. So that actually was helpful."

Figure 10
Partial View of Personal Writing Goal Options for Students

Figure 11
Partial View of how the TBGO Guides Students to Include an Opinion, Reasons, and Elaborations

In the final part of the TBGO, all parts of the essay that students have entered into individual boxes are automatically combined into a complete essay. Figure 12 shows an example of a combined essay, as well as how students can hear their essay read aloud, how they can edit the essay, and how students are prompted to evaluate their writing. Mrs. Sanchez indicated the value of this tool when discussing Mateo's final essay. When reflecting on his progress, she stated:

> I did some analysis. And the first time my newcomer wrote it was really not even a sentence. And the second time he had… oh, my gosh, one, two, three, four, five, it looks like six, maybe seven sentences. So it was huge growth, which he was making anyway, but it was more organized because of the TBGO… Overall, I think it [the TBGO] is a great tool and it really helped kids just stay organized and not go off on tangents.

Apply these Findings in the Classroom

As can be seen from how students in Mrs. Sanchez's class grew their writing skills with the TBGO, digital tools can provide essential scaffolding, modeling, and practice opportunities for students and empower teachers to support student learning more strategically. However, as with any digital tool, it is essential to carefully design instruction so it is closely aligned with instructional standards, and digital tools should be included strategically to enhance and support student learning. Although teachers are invited to use the TBGO to support their writing instruction, we wish to emphasize that the same features that made the TBGO a good digital tool can be looked for when selecting *any* digital tool. Figure 13 provides some of the key digital features that supported Mrs. Sanchez's class students and can be sought out when selecting digital tools for use in writing instruction.

Along with looking for these features, teachers can use an instructional planning tool for integrating digital technology into literacy instruction, such as Hutchison and Woodward's (2014) Technology Integration Planning Cycle, to ensure that digital technology is used in ways that maximally support student learning. When considering how digital tools might support writing instruction, teachers could ask the questions in Figure 14, which combine the components of the Technology Integration Planning Cycle with the support features Mrs. Sanchez found useful.

Figure 12
Screenshot of a Combined Essay and TBGO Editing, Revision, and Monitoring Features

By using these questions as a guide, teachers can consider how to include digital technologies in writing instruction in a way that foregrounds student learning and growth. Further, the aforementioned support features need not be applied all at once. Each of these supports can be applied as needed, individually or together, as everyday adaptations for writing instruction.

Previous research has shown that word processing can positively influence students' planning and writing development (Graham & Hebert, 2011). For students whose second or other language writing skills are still emerging, combining word processing with other digital technologies can provide the necessary adaptations for them to fully express their ideas.

When assigning students to write, teachers may not know the extent of each students' prior knowledge, however we know prior knowledge is relevant when writing about one's opinion (Ferretti & Lewis, 2019). For example, does Alejandro know what is meant by the acronym *P.E.*

Figure 13
Features to Look for when Selecting Digital Tools for Writing

Selecting Digital Tools for Writing Instruction

Type of Feature	Considerations
Choice of Writing Prompts	Look for digital tools that enable you to provide students with multiple options for writing prompts so that students can select prompts for which they have the most relevant background knowledge and vocabulary.
Guided Brainstorming	Select tools that prompt and guide students to brainstorm since this aspect of writing is often overlooked.
Word Banks or Word Selection	Consider tools that allow you to enter your own words into a word bank or come with word banks or other types of word selection options.
Goal-Setting	Look for options that enable students to set goals that are appropriate for their current level of instruction and of interest to them.
Text-to-speech	Choose tools that have an embedded text-to-speech feature that enables students to hear their work read aloud or are compatible with a text-to-speech extension available through a web browser.
Embedded Review Options	Tools that have embedded videos, audio, or other types of content can be useful for students who need to review concepts. Consider digital options that enable you to embed and direct students to content as needed for just-in-time learning.
Prompts to self-monitor	Self-monitoring is a critical feature for students who need scaffolding or support to get through the writing process. Look for digital ways to prompt students to monitor their work for completion or check on progress toward their goals at each step of the writing process.
Prompts for Revision & Editing	There are many digital tools that support editing, such as spell checkers and websites that check for correct grammar. Consider which types of prompting would be most beneficial to your students.

in the persuasive writing prompt? With considerations of a students' background knowledge in mind, the TBGO was designed to provide students with a *choice* of two or more prompts. We designed the TBGO so that teachers can select topics from within the TBGO or create new prompts that are relevant to the individual students' cultural or personal experiences. Providing practice opportunities with persuasive writing on topics about which students have vast background knowledge is recommended. Thus, when selecting digital tools for writing, it is optimal if the tool provides choice and opportunities for activating prior knowledge and selecting a prompt.

Figure 14
Questions to Ask about how Digital Technologies Might Support Writing Instruction

Questions to Ask About How Digital Technologies Might Support Writing Instruction

Question	Considerations
What is my instructional goal and which types of digital features might support it?	Begin with your instructional goals rather than by trying to use a specific digital tool. By beginning with your goals and the support features that may be useful, you will be better equipped to choose the right technology and can quickly eliminate tools that do not have the features you need.
Does the technology help identify genre-specific expectations or at least align with the types of writing associated with the genre?	Consider that some digital tools may allow you to create or change the design to match your specific needs. Think about what formats would be best aligned with the genre of writing that is the focus of instruction.
Does the technology help make essay organization more manageable?	A key feature of the TBGO was that it helped students organize their ideas one step at a time, but could also be easily combined later. Consider digital tools that provide support for essay organization.
Does the digital tool easily allow or enable me to monitor student work and provide feedback?	Consider how students can share their work with you through the tool and how you can monitor their work and provide feedback.
What are the potential constraints of using the digital tool and how can I overcome or supplement them?	Although some tools may have helpful features, they may have constraints that inhibit their usefulness. Consider these possible constraints in advance.
Do I have the classroom structure, equipment, and time needed to effectively use the digital tool?	Consider all components of your classroom when selecting a digital tool . If you want to use a new technology that requires time for students to learn to use it, consider if it is a tool that you can use again for other purposes so that it becomes a high-mileage technology and one that is worth the time spent teaching students to use it.

Another idea learned from Mrs. Sanchez is that, for emerging bilingual students learning English, explicit instruction is needed for the brainstorming component of the writing process. As Mrs. Sanchez mentioned in her interview, teachers will need to initially guide students to make connections to their own cultural and personal experiences around a topic. Making a visual map of ideas as a class around a selected topic is suggested as a model for students. The TBGO provided six different methods for students to select from to brainstorm as a prewriting strategy. For example, the TBGO prompts students to consider using images, illustrations, or concept maps (i.e., web) to develop ideas. This type of choice and guidance should be considered when selecting digital tools to support writing.

Many students who are emerging bilinguals learning English, or otherwise have difficulty with writing, are still building their knowledge of the persuasive genre structure, so, staring with a blank page or blank screen can be daunting when one does not know where to begin. The table, or main body of the TBGO (see Figure 11), provides a predictable persuasive writing text structure. The text structure follows a sequence of steps aligned with a mnemonic, IDEAS (see Figure 11). Observations of students reveal that they plan infrequently (Gillespie & Graham, 2014), but this type of graphic organizer with supportive step-by-step cues provides students with a structure that may not have otherwise been available to the students. A table or graphic organizer like the TBGO makes the planning task of writing accessible and approachable, one sentence at a time.

Finally, emerging bilinguals learning English may have limited vocabulary when expressing themselves in English. However, Isabella, Mateo, and Alejandro included varied transition words throughout their final persuasive essays including *For example*, *Finally*, *Specifically*, and *In summary*. The TBGO provides drop-down menus of transition words as a scaffolded support that functions similarly to a word bank. This embedded feature in the TBGO increases student independence for writing and when emerging bilingual learners of English are provided more exposure, models, and opportunities to learn and practice new English vocabulary, they tend to produce more expressive English language.

Students come to school with a vast array of personal experiences and interests that are likely to impact what and how they write. Digital technologies enable us to differentiate learning experiences and provide multiple options for generating and evaluating content that is culturally relevant and of interest to students.

Acknowledgements

TAKE ACTION!

1. After deciding which writing goals you want to address, consider what types of digital tools or features might support students in reaching those goals.

2. To avoid becoming overwhelmed by too many options, limit your search for digital technologies by starting only with the specific support features that you need rather than searching for technologies that support writing in general. For example, look only for applications that have built-in text-to-speech support.

3. If possible, provide students with choices about which tools or features will best support their writing efforts, but limit the selection to a small number of options that have been carefully vetted prior to instruction.

4. Decide how you can use the digital tools you selected to monitor student progress, provide feedback, and help students continue working toward their writing goals on their own.

Conflict of Interest Statement

All authors declare that they have no conflicts of interest.

Ethics Statement

This study was approved by the George Mason University Institutional Review Board (approval no. 1338081) and by the school district. All participants provided informed assent as well as parental consent prior to enrollment in the study.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author, Dr. Amy Hutchison, upon reasonable request.

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- https://www.understood.org/en/articles/i-write-with-my-voice-how-dictation-helps-me-handle-college-writing

- https://www.noredink.com/curriculum/writing

- https://www.noredink.com/curriculum/module/categories/all

- https://www.understood.org/en/articles/assistive-technology-thats-built-into-mobile-devices

- https://www.understood.org/en/articles/software-programs-for-kids-with-writing-issues