Technology—in the form of digital tools incorporated into writing instruction—can help teachers motivate and engage young children, and it may be especially critical for students who do everything they can to avoid writing. Technology may bolster student involvement, foster the engagement of reluctant or struggling writers, and support writing instruction. However, it does even more. A look at the use of technology in two classes shows how technology can create authentic writing opportunities and impact young writers’ choices. Not only do students in these classes engage with their assignment, but they also interact with their audience, explore the purpose of their assignment, and understand their assignment’s impact.

We feature these classrooms because the technology the teachers selected was either inexpensive or free and easy to learn and use. Just as importantly, these technological tools assist more than one part of the writing process; they are useful in planning, organizing, and sharing the finished writing product with the intended readers.

**Skype and the Wireless Keyboard**

Three deaf and hard of hearing students in an upper elementary public school class used Skype, the well-known program that allows face-to-face communication through cameras via computer in real time, and a shared wireless keyboard that allows users to...
operate a keyboard at a distance from their computer. Their goal: to research the purchase of a class pet. The students—fifth grader Izzy*, fourth grader Juliet, and third grader Andrew—could actively participate in discussion with teacher Nancy Ware, who, untethered from her position at the class computer keyboard, sat with them as they discussed and assembled the text.

Ware, who has taught deaf and hard of hearing students for 28 years, works with students in the elementary grades using various communication approaches. She pulls Izzy, Juliet, and Andrew out of class together to provide writing instruction using spoken English. Izzy is reading and writing close to grade level and is constructing multiple paragraphs with interesting details. Juliet has, in addition to hearing loss, a disability that impacts her short-term memory. She typically writes six or seven incomplete sentences and, at times, uses the same words to begin each sentence, such as “I was playing. I went home. I ate with mom.” Andrew has vision difficulties and receives special services from the school’s occupational therapist. Handwriting is a laborious task for him, and his writing is difficult to decipher. While Andrew usually has multiple ideas and can recognize and supply rich details, he struggles to convey them through writing.

Ware has been focused on expository writing—writing that informs—for six weeks. During this time, she and her students have explored texts, and they have written their own texts together and individually on topics they have researched. Ware has used expository-specific graphic organizers and checklists to support instruction during group, guided writing, shared writing, and independent writing. As a final lesson, Ware asked the students if they would like a class...

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pet; the students replied with an excited, "Yes!" An opportunity for an expository writing project—and writing for an authentic reason—was underway.

After some discussion, the students agreed that they wanted a fish. They researched both the type of fish they wanted and the fish’s needs (e.g., type of food, size of the tank, type of water that the fish would require). While working with her students, Ware wished that she could take them to a pet store to research the topic further. Then she had a great idea: she could use Skype to bring the pet store to them!

Ware set up an interview via Skype between the students and Ginger Yandel, a PetSmart employee. The students drafted questions and, on the day of the interview, each student asked Yandel questions and recorded her responses. During the interview, the students and Ware took turns using the wireless keyboard to type the answers to their questions into a shared document. At the end of the interview, the students asked Yandel and Ware if they could use the information to create a flier to be displayed for PetSmart customers; both agreed. Yandel shared the types of questions customers often ask, which helped the students to better understand their audience and decide what to include in their flier. After the interview was over, the students continued their research and then, with the teacher’s assistance, developed both a flier for PetSmart customers and an informative essay about their soon-to-be-acquired pet for younger students who would also be involved in caring for the fish.

The students developed a shared text in a Word document that was projected, taking turns typing with the wireless keyboard. Together they brainstormed sentences, and Juliet and Andrew typed the first draft of the sentences. Izzy edited the text on screen before they reread the draft together. Once the flier was completed, Ware took it to PetSmart. She scheduled another meeting with Yandel via Skype and the students were able to get feedback directly—and to learn what customers thought of their flier.

Reflecting on the assignment, Ware noted:

> Skype allowed me to make the research process more interesting. It also gave my students a better understanding of what their readers might want to know. They became so excited asking questions and getting responses.

> The wireless keyboard [permitted me] to be more interactive with my students and [permitted them to be] more engaged during lessons.

> The community participation … now that my students know someone else is reading their work, they are more invested in the entire writing process.

This writing project was successful in many ways: It included a topic of interest, multiple uses of digital tools, an authentic task, and a real audience, and the students were motivated to engage in their assignment from beginning to end.

The project demonstrated the benefits of Skype for researching a topic and connecting with an audience. Skype could also permit sharing writing and communication with other students. Consider the possibility of students using Skype to share their work with other students in American Sign Language (ASL) as well as in spoken and written English. Giving students the opportunity to share their writing via Skype allows them the chance to receive feedback on their work from other readers. For struggling writers, reading their own text can be easier and more meaningful than reading other texts.
Skype allows connection between classes in neighboring schools, different states, and even different countries. It vastly reduces the obstacles to bringing visitors into the classroom.

**Popplet and Book Creator**

Five ethnically diverse groups of third-, fourth-, and fifth-grade students used individual iPads equipped with Popplet, a program that allows users to position text, drawings, and photos in a variety of visual layouts, and Book Creator, a program that allows users to create digital books by adding text, annotations, drawings, photographs, and even video and audio to blank pages.

Susan Mitchell, who has taught language arts for seven years, works with students with a wide range of writing proficiencies, from students who have demonstrated mastery of 10 sight words to students who are writing multi-paragraph essays. Many students have unique learning needs characteristic of visual impairments, cerebral palsy, auditory processing disorders, and language delay. Some communicate in ASL, while others use sign-supported speech.

Mitchell spent nine weeks working with students on a writing form known as “recount writing,” in which students write about a past personal event, working on sequencing, past tense, perspective—whether they use first or third person—and consistency. They had read and written recounts as a class and individually when Mitchell asked them to choose an event from their own lives to write about. She began the unit by sharing an event from her own life, and showed the students how she wrote about the event in Book Creator and developed the associated plan using Popplet.

Mitchell projected her Popplet plan on the SMART Board and left it there as a model while students began to create their own plans. While they worked, Mitchell circulated the room to offer help and discuss the students’ ideas. Students were excited and engaged in planning. They focused on their task and worked independently, which allowed Mitchell to give individual attention to her beginning writers, helping them to find and label pictures with vocabulary to represent their ideas. With the more advanced and independent students, this was not necessary; she was able to look at the plans and make suggestions about where they might expand their ideas or add more details.

Students partnered up to read each other’s plans and ask questions that they had as readers. Then they began drawing and importing pictures to create their books. This served as an extension of their planning and helped them further organize their ideas. Using Book Creator, they tackled page after page, writing text and assembling photos.

With the students thoroughly engaged, Mitchell was able to continue to individually confer with students and provide individualized feedback, support, and instruction. The final step was that of video; students added an ASL interpretation of the printed English text on each page. When they were done, Mitchell saved the students’ books on her class iPads in a virtual class library. As the year progressed, the class library grew. During reading time, students were able to read their classmates’ stories. The young authors

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**Digital Tools for the Classroom**

By Rachel Saulbury, Jennifer Renée Kilpatrick, Kimberly A. Wolbers, and Hannah Dostal

**iPAD** ([www.apple.com](http://www.apple.com))—iPads are perhaps the single most important piece of technological hardware to get into the hands of deaf and hard of hearing students. These portable devices can be used both inside and outside of the classroom to support instruction, build students’ language, and offer students another vehicle for expressing their knowledge. iPads can be effectively used during all parts of the writing processes. Cost: $399 and up, with discounts sometimes available for educators.

**BOOK CREATOR** ([www.apple.com](http://www.apple.com) and [www.redjumper.net/bookcreator](http://www.redjumper.net/bookcreator))—This app allows the user to create books. Pictures can be imported or taken using the camera, inserted, and manipulated. Text or writing tools can be used to add annotations to the pages, with different colors available for both. Sound can also be added, and the books can be shared via iBooks, Evernote, Dropbox, and Google Drive. Cost: $4.99 for the Apple version; $2.49 for Android.

**POPPLET** ([www.popplet.com](http://www.popplet.com) and the iTunes App Store)—Popplet is an iPad app that allows users to position text and graphics in a variety of visual formats, including webs and lists. Cost: Free for the basic version; $4.99 for the more advanced version.

**SKYPE** ([www.skype.com](http://www.skype.com))—Easily downloadable, Skype allows face-to-face communication around the world. Cost: Free.

**WIRELESS KEYBOARDS** ([www.amazon.com](http://www.amazon.com))—Cost: $20 and up.
would read the books during independent reading through the remainder of the year. Students also sent their books to a class of deaf and hard of hearing students at a school for the deaf in another state. They used Dropbox, the free on-line service; the other students read the books and provided feedback through a video they also shared via Dropbox.

Reflecting on her students’ work, Mitchell noted:

*The kids love making books using Book Creator. [The software] is VERY motivating! When students write their stories on paper, they get stuck. They don’t know how to spell the words they need, they feel like their peers can see them struggling, and they give up. But when they use the iPads, no one else can really see their work in progress. And having the opportunity to use pictures as a support is invaluable. …It’s not just my struggling writers. It actually really challenges my highest students to work harder and to do their best. I can’t say enough about Book Creator.*

Mitchell has used Popplet and Book Creator in other ways, demonstrating their versatility. The students used Popplet to create think maps—illustrations and diagrams that showed their reaction to their reading. This helped them to organize their thoughts and demonstrate their reading comprehension. Mitchell also uses Book Creator to create varied levels of books for students. For example, when the students read a book about Barack Obama, Mitchell used Book Creator to make a lower-level and a higher-level book about the president. Integrating digital tools into her instruction has helped tremendously with differentiating instruction, she noted, and allowed her to meet the individual needs of her students.

**Two Teachers, Two Classes: A Final Note**

A glimpse into two classrooms shows how four digital tools were meaningfully integrated to support writing instruction with a wide variety of deaf and hard of hearing students. These tools allowed students to engage throughout the writing process; they assisted students with establishing an audience, planning, organizing, writing, editing, publishing, and evaluating their material.

We are living in a technology-infused world where most of our students live digitally connected lives. Integrating technology and finding the right digital tools motivates our students and fits their lives. It also fits into effective instructional practices.

*All names in this article are pseudonyms.*