

Electronic Classroom



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Digital Teachers Reshaping Literacy Experiences

by Tammy Ryan

When the National Reading Panel ([NRP] 2000) released its report challenging school districts to re-inspect then realign

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literacy programs according to “best practices,” a digital literacy explosion was occurring—forever reshaping the literacy experiences students were having outside of school. It is fascinating to observe how ordinary teachers—not just those on the cutting edge of technology—responded. Teachers began infusing curricular standards with digital technologies to engage tech-savvy students’ ways of

being, learning, and knowing outside of school with their in-school literacy experiences.

In today’s digital classrooms, teachers seamlessly move beyond teacher-driven, textbook centered, paper-pencil schooling to digital forms of learning designed to foster reading development. These lessons engage students in collaborative learning, critical thinking,

and problem-solving activities to prepare them to flourish in a technology-saturated world.

The five components for learning to read are still essential: phonological awareness, phonics, fluency, vocabulary, and comprehension (NRP 2000). However, participation in a digital world requires additional skills and strategies (International Reading Association 2009). To read and communicate with digital devices, students must navigate within and between Web sites, locate and critically evaluate resources, and synthesize an amalgamation of information (Coiro 2005).

To support the development of these literacies, the Obama administration recently drafted the first national educational technology plan, titled *Transforming American Education: Learning Powered by Technology* (Office of Educational Technology 2010). The plan urged educators to embrace digital technologies and digital forms of learning to better prepare students for their futures.

Teachers who are passionate about reshaping literacy experiences for students use digital tools to merge students' out-of-school literacy experiences with in-school curricular requirements. In this article, I share how two primary teachers used digital technologies to enhance students' reading, writing, and science literacy experiences.

Enhancing Reading and Writing

First, we visit Ms. Frazier's first-grade classroom (all names are pseudonyms). Some students cluster at tables buddy-reading books while others lounge on the floor, lifting books in the air to learn about roots, leaves, and stems. Though occupied, these students anxiously wait to join Ms. Frazier at the mystery table.

"Yuck, I just yanked disgusting seeds from that smelly pumpkin," Samantha squeals as she shakes the seeds from her hand onto a soggy paper towel. Ms. Frazier grabs a digital camera to preserve

the moment. Back at her seat, Samantha joins the others to scrutinize her seeds before drawing and writing about them in her pumpkin seed journal.

After capturing the seed experiences, Ms. Frazier removes the memory stick from her camera and inserts it into her laptop. Within seconds, the pictures project to a SMART® Board. Juan scans the pictures and shrieks, "That's ME! I took seeds from a pumpkin." Ms. Frazier immediately types his words below the picture, and then glances at the thematic word chart posted next to the interactive board. To direct Juan's attention to a robust word—that is, it represents a new label for a known concept and appears in the written and oral language of mature language users—she pauses the cursor on the word *took*. Recalling class discussions centered on *The Tiny Seed* (Carle 2001), Juan's table group assists him in inspecting the chart. Maria leans over, whispers in his ear, and Juan giggles, "I yanked seeds from a disgusting pumpkin and put them on a towel; I mean a soggy paper towel."

"Great job, Juan. Now, read your words into the microphone. We want to read along with them later in the listening center." After creating several more pictures, Ms. Frazier hits Save, and then Print, before adding the pages to the class-created Pumpkin Book.

In this classroom, students engage in activities such as storybook read-alouds and hands-on events enriched by the Digital Language Experience Approach ([D-LEA] Labbo, Eakle, and Montero 2002). D-LEA involves taking digital photographs to contextualize literacy learning within meaningful events. Photos capture the engagements and serve as visual memory links for retrieving vocabulary and oral language associated with the event.

Research reveals that combining literature with D-LEA events accelerates children's oral language and vocabulary (Labbo, Love, and Ryan 2007). Likewise,

digital storytelling motivates struggling readers and boosts their writing and reading development (Sylvester and Greenidge 2009). Further, studies show that supplementing literature with Internet Web sites promotes the development of higher-level comprehension skills (Castek, Bevans-Mangelson, and Goldstone 2006) and fosters culture awareness (Leu et al. 2004).

In fact, Ms. Frazier creatively orchestrates D-LEA activities to further her students' reading development while incorporating the NRP's (2000) recommendations. For instance, during literacy centers, she projects D-LEA books on the interactive whiteboard. Students practice phonemic awareness as they view a picture and retell the experience to a neighbor. Samantha practices her phonics skills when she uses her finger to circle word endings such as "ing" in *disgusting* and "ed" in *yanked* within the text printed below the pictures. Robust words pop to life when highlighted in color, which further supports students' independent reading of challenging words in D-LEA class books. Students exercise fluency when they reread class books at school and at home.

Importantly, Juan practices self-monitoring skills when rereading the class Pumpkin Book. He studies the picture, glances at the pumpkin-shaped thematic word chart that displays previously instructed robust words. He rereads the sentence, softly whispering, "Oh, yeah, I yanked seeds from a disgusting pumpkin."

Enhancing Science

Next, we visit Ms. Reed's kindergarten classroom. Amid sounds of the forest, students shift in their seats, eagerly waiting to illuminate hidden animals living in various layers of the rain forest onto the SMART Board, using a finger as a pretend flashlight. Devante gingerly slides his finger across the canopy hoping to discover an orangutan lounging in

a treetop. Today, the class has virtually traveled to a rain forest in Borneo, Indonesia, to learn about rain forests through the National Geographic Web site www.nationalgeographic.com/features/00/earthpulse/rainforest/index_flash-feature.html.

Moving his finger across the interactive whiteboard, Devante lights up the screen until he locates the orangutan. Using his finger as a camera, he snaps a picture of the endangered species, which is inserted instantly into a Smart Notebook™ slide. Next, the students orally read a passage displayed on the screen that tells about the animal as Ms. Reed uses the cursor to track text. With a tap on the screen, Ms. Reed uses her finger to move the orangutan slide to the center screen. "What did you learn about the orangutan?" As Devante orally recounts what he learned, "They roam the forest treetops during the day and make beds out of leaves at night," Ms. Reed simultaneously types the student's words below the orangutan picture. Together the class fluently rereads the text before moving on to the next animal picture.

When the adventure ends, Ms. Reed quickly prints the slides, places them in the ongoing class Rain Forest Book, and hands the book to Isabel, the leader of the day. Later, Isabel will reread the book with peers during shared reading time before taking it home to share with her parents. Before the day ends, Ms. Reed uploads the book to the class Web site to share the learning experience with others around the globe.

Days later, to culminate the rain forest adventure, Ms. Reed uses clickers to assess students' understandings of the various animals living in particular layers of the rain forest. Together the class reads a question. Then, students push a button on the clicker to enter an answer before working in teams to ana-

lyze a graph illustrating their responses. After lively discussions, Ms. Reed verifies the correct answer before moving on to the next question.

In this digital classroom, children read with multimodal texts. Lessons include print texts, auditory texts (e.g., music, sound effects), and visual texts (e.g. photographs, animations). Research shows that multimodal texts augment motivation, analytic reading, writing skills, and critical thinking skills (Coiro et al. 2008). Moreover, young children negotiate and make meaning through a semiotic approach, using digital symbols such as letters, clip art, animations, and photographs (Labbo and Ryan 2010).

Becoming a Digital Teacher

Incorporating digital tools into the classroom environment requires preparation and persistence to triumph over challenges such as limited time, resources, and training (Barone and Wright 2008). However, resourceful teachers acquire digital equipment through grants such as the Best Buy Teach@15 Awards (www.bestbuy-communityrelations.com/teach_awards.htm) and Motorola's Innovation Generation Grants (<http://responsibility.motorolasolutions.com/index.php/communityinvestment/education/igg>). Using a digital camera, computer, projector, word processing program, and a few steps, you too can reshape your students' literacy experiences.

First, learn to import digital photographs into a software program and to project photos to a dry erase board. Then, using the software's toolbar options, practice cropping and sizing photos. Next, experiment with fonts, colors, and sizes to create text for the photos. Lastly, because digital classrooms celebrate socially constructed knowledge, your role shifts

to facilitator, resource manager, and co-creator of knowledge (Hassett and Curwood 2009). Classroom management shifts to accommodate and reward explorations, discussions, and the sharing of new knowledge.

Clearly, digital teachers are reshaping literacy experiences at school to build on students' out-of-school literacy experiences. These combined experiences are reshaping the learning landscape to better prepare our students to negotiate, traverse, and participate in a technology-driven world. ■

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