How Effective Primary Teachers Use Technology to Create “Spontaneous Classrooms”

Andrea Bartlett¹, Pamela Leslein-Yoshihiro²

¹² University of Hawai, Bartlett@hawaii.edu

Abstract: In this multiple case study, administrators identified 4 kindergarten-grade 2 teachers for their excellent technology use and effective teaching (Pressley et al., 2001). Five classroom observations of these effective primary teachers provided many examples in which technology was used to teach “new” texts and expanded concepts of language arts (Begoray, 2003). These teachers also integrated traditional and new literacies with the content areas. Four classroom vignettes—one for each teacher—are presented as examples in this paper, with recommendations for teachers, administrators, and teacher educators.

Keywords: Case studies, classroom teaching/practice, integration of ICT, literacy, primary education, research

1. Introduction

This qualitative study examined how 4 effective kindergarten-through-grade-2 teachers used technology. Administrators selected the teachers based on their use of technology and a model of effective teaching developed by Pressley, et al. (2001): (a) instructional balance, (b) instructional density (active participation), (c) scaffolding, (d) encouragement of self-regulation, (e) integration of reading and writing, (f) high expectations, and (g) good classroom management. Other criteria were: classrooms filled with children’s books, explicit teaching of letter-sound relationships and the writing process, and highly motivating environments (Pressley, et al., 2001).

The multiple case study (Denzin & Lincoln, 2003) involved 5 classroom observations of each of the 4 effective primary teachers. Classroom observations revealed the 4 teachers used technology to integrate language arts instruction as recommended by Roblyer (2003). They also used technology to integrate content areas with the language arts, as will be shown in the findings section.
2. Procedures

Two teachers in the present study were from one school, and two from another. All classrooms were in private school settings with administrators and other teachers who supported a child-centered, constructivist philosophy.

The 4 participants were experienced teachers (6-25+ years) with Master’s degrees. All 4 teachers used inquiry-based curricula and flexible scheduling. Furthermore, they valued computers and other aspects of technology both as “instructional delivery systems” (Morrison & Lowther, 2002, p. 4) and as necessary knowledge for their students’ future success.

Field notes from the 20 classroom observations were analyzed using constant comparative analysis (Patton, 2002) in which categories and themes emerged from the data. Finally, findings were validated with the participants to allow changes (Stake, 2003). One example of integrated teaching from each classroom appears below.

3. Findings

3.1 School A/Kim Grades 1-2

Kim’s first and second graders worked on an inquiry-based botany project. Each small group developed five questions they wanted to answer about a specific plant. Next, individual children took notes during a learning trip and from books, magazines, and pre-selected Web sites. Children then color-coded their notes by themes. When the groups met again, Kim helped the children integrate their individual notes into group outlines. Once their notes were approved, all but one group went to the computer to create KeyNote™ presentations: The remaining group chose to make a diorama.

3.2 School A/Emily Grades 1-2

During an art lesson, Emily began by inviting children to sit together on the floor in front of the SMARTBoard™. She prepared children for a learning trip to the art museum by reviewing artifacts provided by the museum. Emily continued her lesson by showing a Web site that guided children as they created a story based on artwork.

Next, children viewed a picture of Pablo Picasso’s Goat sculpture. They answered various questions about the size, shape, and temperament of the animal. Finally, they viewed Henri Rousseau’s The Sleeping Gypsy and wrote what they believed to be the artist’s message. All ideas were accepted, as long as children were able to connect what they wrote to the image.
3.3 School B/Grace K-1

One day in Grace’s multi-age kindergarten/first grade, a pulmonary-disease specialist visited the class as a guest speaker for their health unit. The doctor chose a volunteer from the class and generated a graphic representation of sleep patterns through electrodes connected to a computer. The guest also used posters and charts to show the children deep-sleep patterns. He then correlated these deep sleep patterns to growth. He explained that children who fail to get enough sleep will not grow to their potential. The doctor asked the children what they could do to have good sleep habits.

Throughout the visit, Grace wrote children’s questions and responses while her partner videotaped and took still pictures. Grace saved the videotape for later review and displayed the photos with children’s questions and captions on the bulletin board.

3.4 School B/Dinah K-1

Following a group math lesson, one boy sat on the rug concentrating intently as he filled in a hexagon-shaped area with multiple colored tangrams (i.e., geometric tiles). When finished, he asked Dinah to take a picture of him with his design. After taking the child’s picture, Dinah went immediately to the computer to download the picture, and the boy then printed it out. He cut out the picture, wrote his process on the back, and placed it in a basket with other patterns for classmates to follow if they wished. This sequence inspired other children to create similar patterns and photograph them.

4. Conclusion

These vignettes show the 4 effective teachers used technology for a variety of purposes. Kim allowed children to find information on pre-selected Web sites and choose presentation software as one way to share what they had learned. Emily used an interactive whiteboard to show art masterpieces and guide students in writing a related story. Grace videotaped instruction and took still pictures to document and display learning for whole class review. And Dinah used still photos to encourage children to share ideas. All 4 teachers used technology to motivate students and increase social interactions.

The 4 teachers also went beyond the traditional language arts—reading, writing, speaking, and listening—to teach children to read texts representing an expanded view of literacy. In addition to print, texts are now considered to include oral language (e.g., speeches), visuals (pictures), and even multimodal texts on Web sites (Begoray, 2002). Images are particularly important texts for today’s learners since: “Visualization represents one of the major drives for electronic industries, and the visual will reconfigure our societies’ use of language – whether as speech
or as writing – quite fundamentally” (Kress, 2000, p. 13). As shown by the teachers in this study, technology facilitates many creative ways to integrate content area teaching with both traditional and newer forms of literacy.

This paper presented just a few examples of how these effective primary teachers used technology to teach multiple literacies and content areas. Teacher educators and administrators are encouraged to share these examples, and others provided in the presentation, with teachers and discuss ways to create “spontaneous” classrooms of learners as Emily described:

It makes us a spontaneous class because as questions arise, the World Wide Web can take us to an answer right away. Instead of saying, “I’ll get back to you,” I turn on the SMARTBoard™ and the children jump aboard the learning train into cyberspace. They become the researchers with me, and we investigate an idea or question together.

References


