Collaborative Blogging as a Means to Develop Elementary Expository Writing Skills

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Abstract
This study examined a K-12/university blogging collaboration between preservice teachers and third grade students. Research assistance and writing feedback was provided to help third graders complete a five-paragraph essay and online presentation of a Native American tribe. Results indicated that collaborative blogging improved students' attitudes toward writing. Feedback generated from the collaboration, rather than the use of technology itself, increased students' motivation to write. Collaborative blogging improved students' writing and supported development of related skills and knowledge. In addition to these intended outcomes, a number of unintended benefits emerged from the project. Students transferred knowledge learned during the collaborative project to other academic and social facets of the classroom. Students' technology skills improved even though official technology-related instruction was not provided. Students developed visual literacy skills as they transformed the essays into online presentations. Finally, collaborative blogging enabled differentiated instruction while ensuring success for each student.

INTRODUCTION

Writing is a cornerstone of the three "R's": reading, writing, and arithmetic. Therefore, a common goal in elementary classrooms is to produce articulate writers who are capable of communicating thoughts and ideas clearly. However, the *National Center for Education Statistics* (http://nces.ed.gov/) reports that fewer than 1 in 3 fourth and eighth graders are writing at a proficient level (NAEP, 2002). The *National Commission on Writing* (http://www.writingcommission.org/) sees it as the 'neglected R', pointing out the need for greater focus in this academic area (National Commission on Writing, 2006). The National Commission recommendations, reported in *Writing and School Reform, The Neglected "R"* (National Commission on Writing, 2006), include the following action items: (1) double the amount of time students spend writing, (2) assign writing across the curriculum, (3) encourage out-of-school writing, and (4) employ technology to help improve writing. Through this process, elementary teachers continue to actively teach the writing process.

Researchers have suggested that blogs and blogging meet the above writing requirements (Ferdig & Trammell, 2004). Educational blogs employ technology to offer practice, thoughtful feedback, and revisions based on feedback—fundamental steps in the writing process to improve student writing (Williams, 2003). Blogs also expand writing time by extending beyond the classroom environment and traditional school schedule constraints. They can be about any topic, allowing for multiple cross-curricular projects. The comment feature of blogs provides the opportunity for feedback from anyone in the world creating limitless collaborative options. In sum, they are potentially powerful collaborative tools to build writing ability.

This study examines the results of a K-12/university partnership in which preservice teachers and third grade students collaborated via blogs to write a five paragraph expository essay on a Native American Tribe and to create a related online presentation. This paper describes the results and concludes with implications for blog use in the writing process.

Background

Blog is short for 'Web log'; it is best described as an online journal. The term 'Web log' was coined by Jorn Barger in 1997 (Blood, 2000). However, Justin Hall, who began his personal online journal in 1994, is considered to be one of the first bloggers. Over 4 million Weblogs had been created by the middle of 2003 and over 60 million were created by May 2005 (Huann, Ow, & Ho Pau Yuen, 2005). There are more than 900,000 blog posts a day with a new blog created every second (Richardson, 2005). Blogs can be about any topic and can include pictures or even video. They often incorporate links to other blogs or websites. Most, though not all, blogs provide the option for readers to comment on the journal entry. This feature makes blogging a truly social communication tool.

Blogging also provides a vehicle for sharing feelings and insights with the world without ever leaving the classroom. Will Richardson related an example of this connection (Richardson, 2006). His students read Sue Monk Kidd's *The Secret Life of Bees* (Kidd, 2002) and blogged reflections on the readings. The class contacted the author to invite her to participate in the blogging process. She agreed and responded by offering background into character development and insight into her writing approaches. Richardson's students reached out and were rewarded with a very unique and special relationship that would not have been possible without blogging. The benefit extended beyond the classroom to anyone in the world who accessed the blogging site.

Fernette and Brock Eide's research (Eide Neurolearning Blog, 2005) found that blogging can:

- Promote critical and analytical thinking
- Be a powerful promoter of creative, intuitive, and associational thinking
- Promote analogical thinking
- Be a powerful medium for increasing access and exposure to quality information
- Combine the best of solitary reflection and social interaction

Will Richardson summarized the pedagogy of blogging in his book, *Blogs, Wikis, Podcasts, and Other Powerful Web Tools for Classrooms* (Richardson, 2006). He suggested that blogs are a constructivist tool for learning where participants construct knowledge, share ideas, and build upon each other's work. He added that blogs archive the learning that has taken place and provide a historical framework. In such an approach, different learning styles are represented because every person has a voice. Finally, blogs teach students 21st century skills that are necessary in a global economy.

Commenting and hyperlinking are components that extend blogs beyond basic publishing. The comment function allows others to communicate relevant feedback thereby facilitating the "scaffolding of new ideas" (Ferdig & Trammell, 2004, p. 1). Hyperlinks provide "relational and contextual basis of knowledge and knowledge construction" (Ferdig and Trammell, 2004). Many blogs include references, visuals, and hyperlinks to related topics within the blog. In addition to expanding the students' frame of reference, these links also provide opportunities to verify content and check other views. Students can become subject matter experts through exposure to vast amounts of information thus increasing interest and ownership of learning (Ferdig & Trammel, 2004). Exposure to different perspectives enables students to form opinions based on varied content rather than the controlled view of a textbook.

METHOD

This study employed teacher inquiry, a process by which teachers systematically and intentionally study their own practice in order to improve practice, share results with other educators and work toward educational change. (Cochran-Smith & Lytle, 1993; Dana & Silva, 2000; Hubbard & Power, 1993). In general, the teacher inquiry movement focuses on the concerns of teachers (not outside researchers) and engages teachers in the design, data collection and interpretation of data around their questions. The process of teacher inquiry involves teachers defining a 'wondering' or 'burning question' that emerges from their practice, developing a research plan for data collection through such mechanisms as journals, student work, interviews with students, and field notes, analyzing their collective data in relationship to their wondering to develop a picture of their learning, taking action to implement what was learned through their investigation, and sharing the results of their work with other professionals (Dana & Yendol-Silva, 2003).

The Inquiry Question

Defining an inquiry question is often a complex and iterative process given the well-documented complexities of classroom life (Sarason, 1971) and contemplating the use of blogging in the elementary classroom led to a number of questions including: How can technology be effectively integrated with an expository writing project? Will blogging improve third grade students' attitude toward writing? Will blogging improve the quality of writing? Will third grade students be further motivated to learn about a topic if they are teamed with college partners for guidance? What are the limitations of blogging in the third grade classroom?

Determining the most salient issues related to writing at the elementary level finally helped narrow the inquiry question. As such this question drove the study: *What happens to third grade students' attitude toward writing, quality of a final writing product, and motivation to write when they participate with preservice teachers in a blogging project related to the study of Native American culture?*

The primary learning outcomes of the inquiry project were for the third graders to write a five-paragraph expository essay on a Native American tribe and for preservice teachers to gain knowledge about and experience with using technology to support the writing process. Planning the project design process required consideration of

technology tools such as blogging and presentation software, blogging security, relevant standards, curricular components, and project timelines. This was accomplished through the following process:

1. Each child communicated his or her tribe to the university blogging partner.
2. Preservice teachers provided age-appropriate links to websites for the children to access and collect facts about the tribe.
3. Third graders organized the research using an *Inspiration*™ concept map.
4. Preservice teachers provided feedback throughout the pre-writing and writing process.
5. The third graders used the five-paragraph essay to create a *MediaBlender*™ online presentation.

The Participants

The elementary participants were third grade students at a large, independent preparatory school in west central Florida. Students and parents were informed about the project parameters and asked to provide a signed permission form giving consent to participate. All students chose to be included in the project, and each had parental permission to participate (See Appendix B). The third grade self-contained class was comprised of 11 boys and 7 girls, aged 8 and 9 years old. Socioeconomic status was predominantly upper middle class. Racial diversity included 2 African American, 2 Hispanic, 1 Asian, and 13 Caucasian students with 4 different countries of origin represented. The children had access to six desktop Macintosh computers in the classroom. In addition, the teacher was able to sign up for a rolling lab of 12 laptops and a computer lab classroom with 20 computers. Most of the work for this project was conducted in the computer lab. However, all students had access to computers at home. If a blog entry was not completed at school, students were able to finish the entry on a home computer.
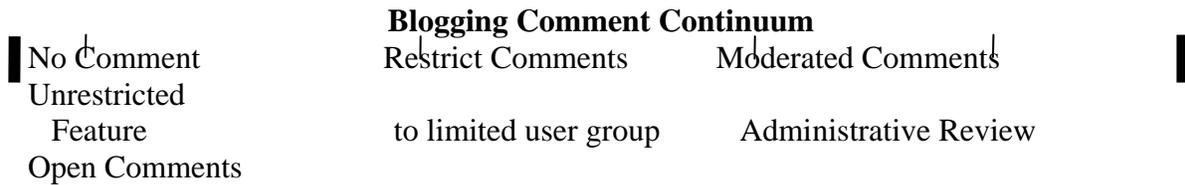
The Software Component

Blogging had been an integral part of the third grade writing curriculum for the previous two years. The class used a product called *KidzBlog* to journal thoughts on a variety of topics, most of which were directly related to current units of study (Kidzblog, n.d.). The *KidzBlog* software was easy to install and run on school servers. In addition, it provided a means for including artwork with the blog in a format simple for young children to manipulate. Once blogs were approved and published on the class website, family, friends, and other Internet visitors had direct access. There is no comment feature in *KidzBlog* making it more of a publishing program than collaborative tool. While the weekly blogging was successful, two-way communication became the ultimate goal.

In order to choose blogging software for this project, commenting capabilities were evaluated on a continuum ranging from no comments permitted to non-restrictive, open commenting (see Figure 1). This continuum helped assess and balance the desired level of security with optimal interactive capabilities. Unrestricted, open comments were not an option for the elementary students.   However, comments with the ability to

review and approve prior to publishing offered a realistic compromise. *Blogmeister* was chosen for the project because it offered the option of administrative review. In addition, students could create individual blogs under a single class heading making management much easier.

Figure 1: Blogging comment continuum

Blogging Comment Continuum

No Comment	Restrict Comments	Moderated Comments
Unrestricted		
Feature	to limited user group	Administrative Review
Open Comments		

Relevant Standards

Writing, technology, and social studies were target curricular components of the project. Table 1 presents the relevant standards applicable to this project.

Table 1: Relevant Standards

Relevant Standards

Sunshine State Language Arts (3-5)
Writing
- Prepares for writing by recording thoughts, focusing on a central idea, grouping related ideas, and identifying a purpose for writing.
- Drafts and revises writing that focuses on the topic, has a logical organizational pattern, and ample development of supporting ideas.
- Writes notes, comments, and observations that reflect comprehension of content and experiences from a variety of media.
- Uses electronic technology to create, revise, retrieve, and verify information.
- Creates expository responses in which ideas and details follow an organizational pattern and are relevant to the purpose.

ISTE National Educational Technology Standards for Students
- Use technology tools to enhance learning, increase productivity, and promote creativity.
- Use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.
- Use technology to locate, evaluate, and collect information from a variety of sources.
- Evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

Sunshine State Social Studies (3-5)
- Uses a variety of methods and sources to understand how individuals, ideas, decisions, and events can influence history.
- Understands various aspects of family life, structures, and roles in different cultures and in many eras.
- Understands the geographic, economic, and cultural factors that characterized early exploration of the Americas.
- Understands the interactions of people and the physical environment.
- Understands how state and federal policy influenced various Native American Tribes.

Writing Component

The proper form of cohesive paragraphs is an educational objective in both second and third grade. In third grade, the students improve sentence structure and learn how to combine paragraphs into a five-paragraph essay. This collaborative blogging project was their first attempt at such a lengthy expository writing piece. This project focused on writing, however, it was critical to integrate the curriculum in order to make time for the project. Social studies offered numerous opportunities for expository writing; it was a practical decision.

Social Studies Component

The school spent the last 2 years revising the elementary social studies curriculum. Units in third grade were revised to include Florida, Indigenous People of North America, and Early Explorers. Since this was the first year of implementation, supplementary resources were limited. Therefore, it seemed that the students would benefit greatly from a project that reinforced the objectives within the social studies units and exposed learners to resources beyond the traditional classroom text. In addition, Native America is a common unit for children in the intermediate elementary grades. Many quality websites were available on this topic targeting young readers.

Project Timeline

The third graders needed sufficient time to find material, digest and refine the facts, and write in small, manageable increments. The individual blogs were set up in *Blogmeister*. Third graders posted a blog entry to identify the tribe and request assistance finding research information. Preservice teachers responded. Third graders visited the websites provided by the preservice teacher. Each third grader completed a fact-collection sheet to document interesting points about the tribe. The facts were color-coded into categories to help the children narrow the scope of the research to three main topic areas of interest (Example: traditions, food, clothing). Third graders posted a message asking the preservice teachers to help find additional facts specific to the chosen topic areas. Preservice teachers offered guidance specific to the third grade topics. Third graders used the research data to create an Inspiration map (graphic organizer/concept map) with details to support three main topic areas. These concept maps were posted on the class website for the preservice teachers to view and respond to content and organization. Third graders began the writing process. Each of five paragraphs was posted to the blog. Preservice teachers reviewed each paragraph, one at a time, and posted a response including praise and suggestions for improvement. Finally, all paragraphs were combined to create a Media Blender presentation that was posted on the class website.
http://w3.shorecrest.org/%7Ethirdgrade/GR3/Drexlerclasswebsite/Projects.html

A schedule was developed to provide the time needed for both the third graders to conduct research and the preservice teachers to respond (See Data Collection

Data collection strategies within teacher inquiry should fit with what is already going on in the classroom so that the inquiry becomes a part of rather than apart from classroom life (Dana & Silva, 2003). The following strategies were selected from the multiple forms of data available in the classroom and are recommended by teacher inquiry experts (Dana & Silva, 2003): (1) writing survey, (2) teacher's reflective

blog/field notes, (3) student blogs, (4) interviews, (5) student concept maps, and (6) student five-paragraph presentations.

     Writing survey. Students were given a writing survey to capture attitudes toward writing before and after the project. Since this project started at the beginning of the school year these results yielded baseline data that could be used for many purposes beyond this project. The survey was written at a level appropriate for third grade. Affirmations such as *I like to write in my spare time*, *It's fun to write things at home, I like writing on the computer,* were addressed with a *yes or no* response. The survey was an important tool for measuring whether an attitude change took place over the time that the students worked on this project. The survey is available in Appendix A.

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Table 2: Native American Blogging Project Schedule

Project Timeline	Third Grade Tasks	UF Student Tasks
Week 1	Native American tribes assigned to each student. First blog entry posted.	Responded to first posting with age-appropriate sites.
Week 2	Visited websites, completed fact collection, narrowed topic. Second entry posted.	Located additional sites or pointed to specific facts to include in research.
Week 3	Created Inspiration concept map. Posted to class website.	Commented on concept map and content organization.
Week 4	Wrote introduction paragraph and posted to blog.	Commented on first paragraph with suggestions for improvement.
Week 5	Wrote first topic paragraph	Commented on first topic

	and posted to blog.	paragraph and posted feedback.
Week 6	Wrote second topic paragraph and posted to blog.	Commented on second topic paragraph and posted feedback.
Week 7	Wrote third topic paragraph and posted to blog.	Commented on third topic paragraph and posted feedback.
Week 8	Wrote summary paragraph and posted to blog.	Commented on summary paragraph and posted feedback.
Week 9	Five paragraphs combined into Media Blender Presentation posted on class website.	

Teacher's reflective blog/field notes. One hour per week in the computer lab was dedicated to this project. Field notes were taken at each of these sessions. Students often required additional time on the classroom computers. Each child was observed during every blogging session. The reflective blog was useful in capturing details taking place on a daily basis. It also captured the teacher's feelings as the project evolved. http://eduspaces.net/wdrexler/weblog/

Student blogs. A student blog was set up for each individual on the Blogmeister website. The context of these blogs served as salient data for this study. http://classblogmeister.com/blog.php?blogger_id=46682

Interviews. Individual conferences were held with each student at least once during the project, and again at the end of the project. These were informal meetings. Open-ended questions were asked to encourage the student to reflect on the project and offer as much detail as possible about his or her blogging experience. Examples of the type of questions asked include: What do you think about this project so far? What is your favorite part of the project? What has been most difficult for you? What do you think about having a college student as a blogging partner, What would you tell second graders about this project if they do something similar next year?

Inspiration concept map. The concept map served as the framework for the report. Subtopics were developed as part of the blogging process. The third grade students collected information as guided by the pre-service teachers. The sub topics from the Inspiration Concept Map served as the three main paragraphs of the report. The students were familiar with this concept-mapping tool because they had been introduced to it in computer class.

Five-paragraph MediaBlender presentation with references. *MediaBlender* is an age-appropriate presentation software that is used by Shorecrest Lower School students in lieu of *Microsoft Powerpoint*. Students created one page for each paragraph in the Native American report. The pages were illustrated with appropriate clipart, photographs, and/or free-drawn pictures and posted to the class website. Blogs, Inspiration Concept Maps, and Media Blender presentations can be viewed at http://w3.shorecrest.org/%7Ethirdgrade/GR3/Drexlerclasswebsite/Projects.html.

Data Analysis

A four-step systematic data analysis process recommended for teacher inquiry was implemented (Dana & Silva, 2003). First, the data was read and reread to establish familiarity. Second, the data was organized chronologically and coded in order to disaggregate the data and break it into meaningful chunks. The three foci of the wondering were a priori categories (i.e. attitude, motivation and writing quality) while additional categories emerged. Third, with an eye toward making the initial categories concrete all data was reviewed again and salient "snippets and segments of data" (Rossman & Rallis, 1998, p. 180) were extracted to support (or disconfirm) each category. Finally, the categories were transformed into findings and implications. The following sections present these findings and the resulting implications.

FINDINGS

Data analysis revealed seven distinct categories, three of which were related to intended outcomes or outcomes specifically related to the wondering (i.e. attitudes, motivation and writing quality) and four of which were unintended outcomes of the project (i.e. curriculum integration, technical skills, visual literacy and varying student capabilities).

Intended outcome #1: Collaborative blogging helped improve students' attitudes toward writing. Third graders reported their feelings about writing via a survey administered at the beginning of the school year. Students were asked to respond to 17 simple statements about writing with either a "yes" or "no" answer (See Appendix A). Figure shows all of the questions that were stated in the affirmative. Statements such as "Writing is hard" or "Writing is boring" were eliminated from the results. They also showed favorable improvements, however, could not be included in this chart because they were stated in the negative.

Figure 2: Survey Results

Student Writing Survey Results
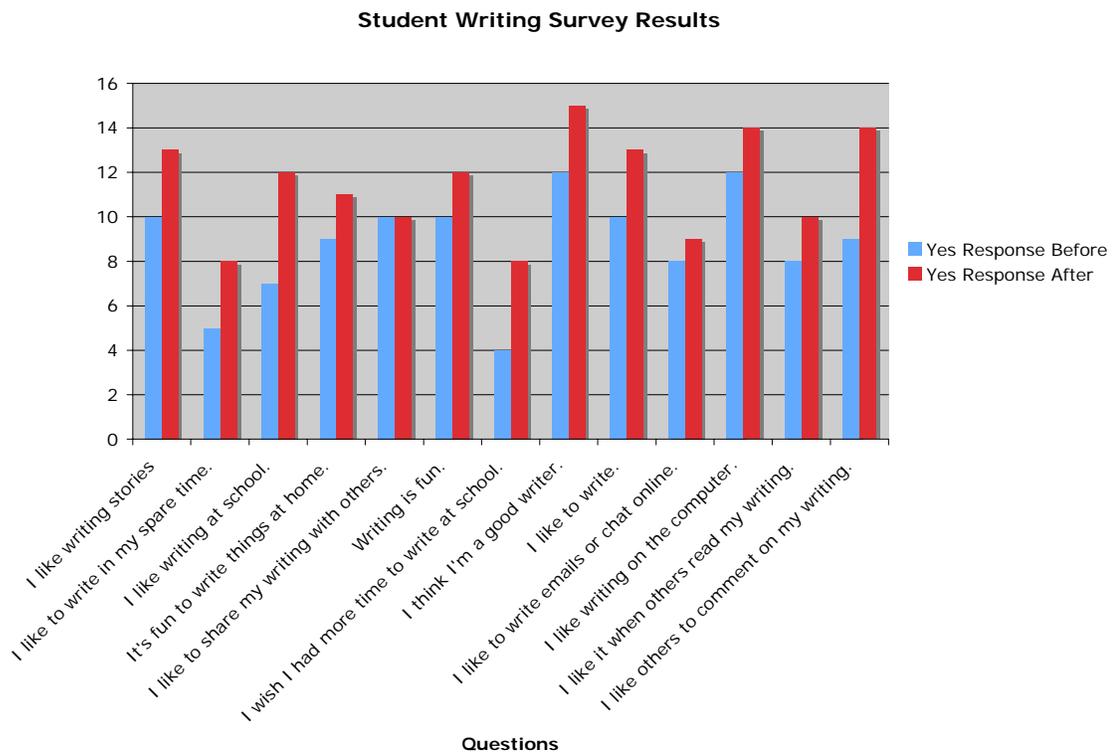
The most substantial increase in positive responses was to the statement, "I like writing at school." At the beginning of the project 7 students responded affirmatively. After the blogging project, 12 students agreed with this statement..

Other forms of writing instruction were taking place during the blogging project. Thus, changes in attitude toward writing cannot be wholly attributed to blogging. However, student interviews helped support findings obtained from the writing attitude survey. For

example, this statement from Zack is representative of many students' responses, "We learned a lot about writing and communicating with people. I liked the suggestions. At first, I thought writing took too much time. Now, it's really fun."

 Intended outcome #2: Feedback generated from the collaborative blogging experience, rather than the use of technology itself, increased students' motivation to write. "Classroom blogs are a powerful way to combine the best of education and the best of technology and use both in a creative way to motivate students (Wells, 2006, p. 40). Teacher field notes highlighted a difference between blog writing assignments and the traditional classroom writing activities. The enthusiasm for blog writing was uncharacteristic. Third grade students cared very much about the quality of each draft. During other writing workshops, there are always a few children who have difficulty getting started. Some find any excuse possible to avoid the first pencil mark on the paper. The process just seems painful to them. Conversely, very little if any distraction was evident when writing for the blog. Each child was thoughtful and engaged throughout the writing process. This was the result of the motivation that came in trying to please their preservice counterparts. Many of the children would actively express disappointment when it was time to transition to a new activity. It was difficult for the teacher, as well. No teacher wants to stop an activity where so much learning is taking place.

 Technology was a motivator, though not necessarily in ways one might expect. While the children enjoy every opportunity to use the computer, technology alone does not motivate or promote high achievement. Computers are used regularly during the school day and at home. Consider that these students have spent their lives in a digital world. The novelty wears off quickly. It was actually the feedback that seemed to generate the greatest enthusiasm. Opinions about technology varied when the children were asked to reflect on the Native American project. Some students mentioned the computer as a motivator. Others did not. Interestingly, the consistent theme among all the student reflections was *feedback.* Nearly every child mentioned "communication with college partners" as a favorite aspect of the project. During the interview process, students were more motivated by the feedback than the technology. They cared very much about how their partners perceived their ability and quality of work:

- My favorite part was when we looked at comments, what I did well, where I could improve.
- I thought that having a blogging buddy was fun.
- I enjoyed the writing because I felt like I was improving more every time I got feedback.
- The feedback gave me constructive thoughts about how to improve my writing.
- I really, really liked when I got feedback from my partners to learn what I needed to change and if I needed to write more for my paragraph.
- I think it was easier to have the help of the college students.
- I liked how the college students gave feedback.
- Doing research and having constructive comments on my work really helps improve my writing.

- *I liked how the college students wrote back and told me how to improve my writing.*

Clearly, constructive feedback helped the children organize their thoughts, refine the writing details, and take pride in the final product. Other teachers have had similar experiences with collaborative blogging projects. Will Richardson recounts a project in which high school journalism students blogged with 4th grade elementary students to help teach them reporting and news writing. "They all wanted to write well for the high-schoolers," says Anne Davis, who coordinated the Georgia side of the project. "Their response was totally different than the usual handing work into the teacher. It was wonderful to find a way to keep kids on task and end up with such high-quality writing (McCloskey, 2006, pg. 22)."

Intended outcome #3: Collaborative blogging improved students' writing and supported development of related skills and knowledge. Quantity and quality of writing increased. In one respect, since this was a first attempt at a five-paragraph essay, just completing the project constituted an improvement. Yet, there was also significant improvement in the writing quality of each paragraph as students progressed through the editing process with the preservice teachers. Editing is one of the most difficult steps in the writing process. This is true from both the writers' and the teacher's perspective. It is a challenge to conference with every student and to provide the time and attention he or she deserves. After all, there is only one teacher. At the same time, the more attention each student receives, the better the end result. Blogging with preservice teachers provided an opportunity for one-on-one communication. It was like having a personal tutor for each piece of writing. The classroom teacher was able to give instruction and guidance at greater depth and focus because preservice partners provided initial comments and suggestions. While no official comparisons were conducted the classroom teacher has been teaching how to writing five paragraph expository essays for years and the final products were noticeably better than in previous years.

As the Native American project evolved, students learned many skills related to successful writing. For example, the students learned the importance of clarity in writing. The students began their journaling process by asking for help from their preservice partners. They quickly realized the importance of crafting questions clearly and concisely in order for the partners to respond in the most useful manner. Precious time was lost and substantial frustration experienced by the third graders if the preservice partners had to ask for clarification in order to answer questions.

Research was a major component of this project and requires the ability to gather, organize, and prioritize facts. Not only did the children have to read carefully, they had to make choices about the significance of the information found. The third graders quickly realized the benefit of collecting a large number of relevant detailed facts. While the students with pages and pages of facts had to work a little harder during the fact-finding and prioritization process, they clearly had the easiest time initiating the writing process. This was an "aha" moment for a number of students who did not work as hard gathering facts. Realizing the value of diligence during the fact-finding stage of research, the teacher reports that many of these students have altered their approach on subsequent research activities.

Organization is also a key skill related to writing and was facilitated through the use of an Inspiration Concept Map that served two primary purposes. The third graders were required to identify three main topic areas on which to focus the report. Graphic organizers such as concept maps provide a structure through which this can be achieved. The students were able to synthesize the content and digest main ideas. In addition, structuring the concept map into the three main topic areas provided a road map for the writing process. The content was neatly organized for the three main paragraphs of the five-paragraph essay.

Recognizing that writing is a process rather than a one-time event is another important factor that influences writing ability. While many children agreed that writing each individual paragraph was one of the most difficult tasks, it did not seem overwhelming because we incorporated so many steps in the process. Those steps made the work manageable and far less tedious. As Bailee stated, "this didn't seem hard at all. I can't believe we did all that work."

Unintended result #1: Students transferred knowledge learned during the collaborative blogging project to other academic and social facets of classroom. Third graders enjoy learning about other cultures. "They're not that different from us," explained Henry. Most of the websites provided by the university partners were student-focused and designed at a level appropriate for the third grade audience. Pictures and links captivated and maintained the children's attention. Students navigated all through the sites to learn more about the adopted tribes. They were excited about the cultures and enjoyed sharing what they had learned even during informal parts of the day such as recess. A group of students got together and built models of Native American villages out of sticks and leaves found on the playground. The excitement was infectious. Students drew conclusions, transferred knowledge, and made comparisons and contrasts as other resources such as textbooks and videos were introduced. For example, a shaman appeared in a video the class was watching on the Pueblo tribe of the Southwest. It prompted an in-depth discussion about the role of the shaman in the Native American culture. Many of the students were able to provide detailed information about this role specific to the tribe he or she studied.

Unintended result #2: Students' technology skills improved during the collaborative blogging project even though official technology-related instruction was not provided. Many of the functional aspects of technology use improved over the course of the Native American blogging project. Students became more proficient conducting Internet searches. They were also better able to toggle between several open programs at one time. Cutting and pasting was required to move content from the blogs to the presentations in an effective manner. The children discovered creative ways to solve formatting challenges efficiently. Most significant were the improved keyboarding skills. The computer teacher even commented on the proficient skills of this class over the other third grade classes.

Unintended result #3: Students developed visual literacy skills as they transformed their essays into online presentations. The presentation illustrations included a combination of digital pictures and original drawings. Observing students as they decided what pictures or artwork to include on each page of the presentation was curious at times. Some wanted to include pictures that had no relevance to the content. They had to be instructed to include illustrations that were applicable to the content on a

given page. While developing visual literacy was not an explicit goal of the project, it is evident that more attention needs to be given to these skills.

Unintended result #4: Collaborative blogging enabled differentiated instruction while ensuring everyone met with at least some success. Learning differences, individual capabilities, and varying student levels became apparent very early in this project. Even the preservice teachers expressed surprise at the different writing levels. This is especially interesting since the class is a relatively homogenous group in a competitive prep school environment.   Even so, each child is unique, and there are always those who struggle and those who excel.

A major benefit of this project design was its applicability to all levels of reading comprehension and writing skill. Each student approached the research with his or her individual ability and style. The Inspiration Concept maps presented in Figure reflect significant variation in research depth and details. However, the children proceeded through the project as equals, and were never singled out for level of ability. They reveled in the independence. Elizabeth shared, "I liked that we got to go on the Internet a lot and that we actually got to take responsibility for ourselves and study. You could make it hard or easy on yourself."

The concept map on the left was completed by an average student who struggles with minor issues of attentiveness and staying on task. The concept map on the right reflects a student who is passionate about history and very detail-oriented. Both of these children enjoyed all aspects of the project, improved writing skills, and successfully completed the assignment. Yet each was able to approach the research process with individual style and a personal sense of accomplishment.

Figure 3: Comparison of Concept Maps
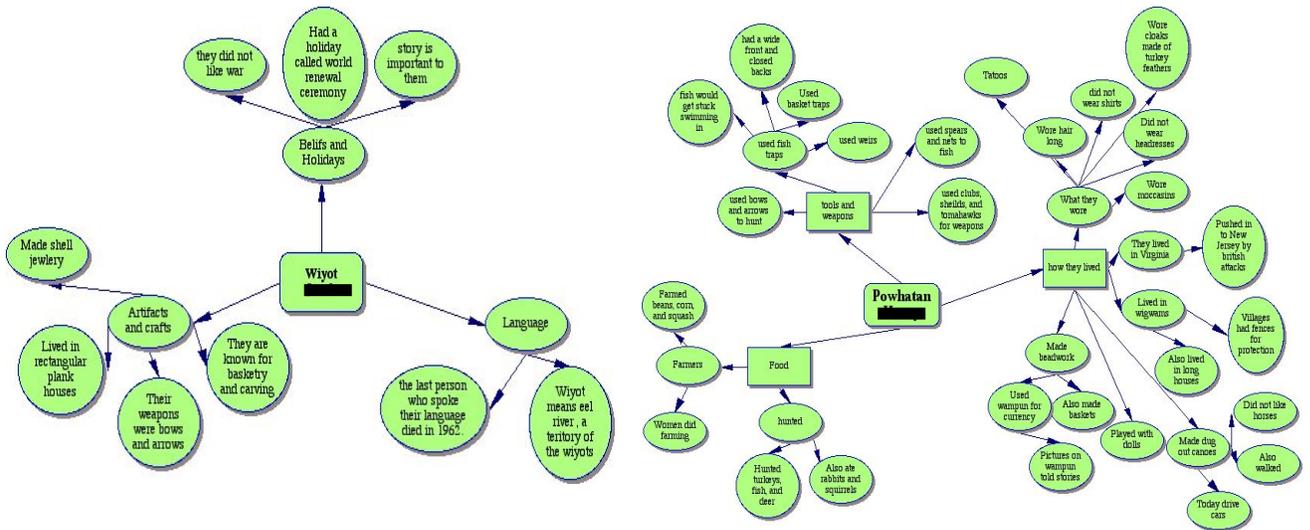
SUMMARY OF FINDINGS

This teacher inquiry led to a series of important findings that will inform others wishing to participate in collaborative blogging. The findings fell into two broad categories: (1) Intended or findings specifically related to the inquiry question and (2) Unintended or findings that emerged from the data collected. Table 3 summarizes the findings.

Table 3: Summary of findings

Intended Results	Collaborative blogging helped improve students' attitudes toward writing.
	Feedback generated from the collaborative blogging experience, rather than the use of technology itself, increased students' motivation to write.
	Collaborative blogging improved students' writing and supported development of related skills and knowledge.
Unintended results	Students transferred knowledge learned during the collaborative blogging project to other academic and social facets of classroom.
	Students' technology skills improved during the collaborative blogging project even though official technology-related instruction was not provided.
	Students developed visual literacy skills as they transformed their essays into online presentations
	Collaborative blogging enabled differentiated instruction while ensuring everyone met with at least some success.

IMPLICATIONS

Blogging between third graders and preservice teachers to conduct research and write about Native American Tribes was a productive, successful project that could be replicated across grade levels and content areas. Preservice teachers make great partners for such work although collaborations may also occur between elementary and secondary students, adopt-a-school volunteers and students, or parents and students. Teachers should look carefully at their local context as they try to determine the partnership that may work best with their students.

As with any major educational undertaking, there were challenges to address and overcome. Teacher developing future blogging projects should consider issues related to (1) student keyboarding skills, (2) project pacing and frequency of commenting, (3) self-disclosure as an enhancement to the project design, and (4) transference.

Keyboarding

Third grade keyboarding skills are marginal, especially at the start of the school year. Sufficient time had to be provided for the children to type paragraphs. Consequently, for greatest efficiency, the children wrote draft paragraphs in manuscript prior to going to the computer lab to submit the post. While there are benefits to drafting all aspects of the writing online, time was of the essence. To complicate this issue, the Blogmeister software we were using timed out after 10 minutes in the posting mode. The blog had to be saved often during posting to ensure that work wasn't lost. One student complained, "I would rather type directly on the computer instead of writing on paper. For me, it is faster that way." There are a number of conflicting opinions as to when and whether keyboarding should be taught in elementary school. The policy at this school is to teach keyboarding in the fourth grade. Therefore, third grade students tend to type very slowly. Their keyboarding skills improve significantly throughout third grade because they are exposed to so many opportunities to use the computer as a writing tool. Those considering a similar project should carefully consider how student keyboarding skills will influence it.

Project Pacing and Comment Frequency

Time was the major constraint. Maintaining a steady project pace was somewhat challenging, especially when students were absent. While this is a common problem in any teaching environment, it was imperative that the project continued on schedule. Preservice teachers were only able to post once a week making it critical to post third grade blogs by Tuesday. One hour per week was arranged in the computer lab, as well. Luckily, students were able to make up work on the classroom computers and/or at home, if necessary.

Even though feedback was one of the most motivating aspects of this project, the students could benefit from more frequent comments and feedback. A full week is a long time in the life of an 8 or 9-year old. Posting and commenting every other day or so would help maintain the momentum of the content. The question to ponder is how often should feedback be provided for the greatest learning to take place. Obviously, it would depend on the project. Factors such as student age, achievement level, attention span, and subject matter should also be considered.

Self-disclosure

Exchanging some level of personal information between bloggers helps to build a rapport that may lead to greater learning (Harper & Harper, 2006). The concept of self-disclosure as a potential enhancement to the interchange between third graders and preservice was not initially considered in this project. However, subsequent research indicated that self-disclosure might help build the blogging relationships thereby impacting the quality of the blogging content. "Significant research indicates that student self-disclosure plays an important role in the learning experience and producing positive learning outcomes. Blogging is an increasingly popular tool that can potentially aid educators by encouraging student self-disclosure (Harper & Harper, 2006, p. 251)." The children were eager to get to know the college partners. A number of children asked if they could share information about hobbies, pets, or other interests. Time constraints were the greatest obstacle to making this happen. But, informal introductions including a

photograph and general interests could have been practically implemented. Others are encouraged to take steps to build relationships early in a project.

Transference

As the class embarks on future research and expository writing, it will be compelling to assess whether the lessons of the Native American blogging project will transfer to other content areas. The ability to transfer learning to new situations depends upon the amount of time devoted to the original learning, self monitoring of learning with sufficient feedback, perceiving the learning in multiple contexts, and prior knowledge of the subject (Bransford, 2000).   Certainly, a significant amount of time was devoted to the Native American Blogging Project. The research and writing were spread over more than 9 weeks with each week focusing on a single paragraph. Self-monitoring skills were in the development stage, but the children were coached at regular intervals to review the writing and make independent editing decisions prior to receiving feedback from the college partners. The feedback provided another opportunity for self-assessment. Time will tell if transference will occur as the result of perceiving the learning in multiple contexts. However, there has already been some indication that students are using strategies learned from the Native American research to facilitate the process in a subsequent explorer report. The class was able to navigate research websites much more successfully, and note-taking skills have improved dramatically. Hopefully, the enthusiasm generated will carry the children through numerous research and writing experiences for years to come.

Other Practical Suggestions

Class blogs are relatively easy to implement and manage. There are a number of formats and blogging options available allowing for flexibility when incorporating blogging into educational activities. Children take a greater interest in writing when they know that it will be published for the whole world to see. However, students should fully understand the nature of blogging before proceeding with a major project. A large percentage of blog content is based in opinion. Younger children must understand the difference between fact and opinion. It is also important for students to consider the source. Who is writing this blog? Is he or she an expert in the topic of the blog? If students are searching for and reviewing the blogs of others, it is also important to consider how the author is presenting his or her expertise. People are not always who they claim to be. Of course, many contributors are honest and forthright. Students should approach blogs, and all Internet content for that matter, with an informed and discerning perspective. Mollie Cree, a teacher for Bedford County Schools in Forest, Virginia offers some tips for preparing students to blog:

- Determine that all students' Acceptable Use Policies (AUP's) are in place and up to date.
- Inform parents of procedures and secure parental permission.
- Teach students safe, acceptable, and sensible behavior as online authors and readers.
- Review policies and guidelines pertaining to student access.

- Teach the non-posting rules of no complete names, e-mail accounts, or references to reveal location.
- Set clear expectations regarding tone, respect, and consequences. (Crie, 2004)
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CONCLUSION

Collaboration between third grade students and pre-service teachers as a means for conducting research and writing an expository report was a successful undertaking. First, general attitudes toward writing improved. Second, the quality of writing samples increased as compared to similar attempts from prior third grade classes as well as compared to previous writing samples within this group. Third, students remained motivated throughout the nine-week blogging project, primarily due to the excitement generated by each new comment from a college partner.

Finally, the Native American blog was used to successfully build a knowledge community between the third graders and their college partners. This was something that Zhang, et al. (2006) discussed. Their research in the dynamics of knowledge building with 9- and 10-year-olds indicated that community knowledge and the constructive use of authoritative sources motivated children to generate original ideas and take greater responsibility for further inquiry. Furthermore, the project plan served as an example of how to effectively integrate technology into the existing curriculum. Integrating literacy, social studies, and technology made it possible to cover key standards within a reasonable time frame without compromising educational goals.

The project further reinforced Will Richardson's (2006) pedagogy of blogging. As a constructivist tool for learning, the Native American blogging experience represented a contribution to the greater body of knowledge. The children created content, obtained feedback, edited the work, and posted their responses for others to access. The walls of the classroom expanded to include college student mentors, as well as any visitors who happened upon the site. An archive remains for all future visitors who wish to learn from the Native American blogs or subsequent presentations. As a democratic tool that supports varied learning styles, the project provided an equal opportunity for students of all levels to participate. Finally, students recognized and appreciated the 21st century skills obtained as a result of their participation in this project as they actively used Web 2.0 tools to build expertise and communicate with the world.

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Appendix A
Student Writing Survey

	Yes	No
1. I like writing stories.		
2. Writing is boring.		
3. I like to write in my spare time.		
4. I enjoy writing notes and letters to people.		
5. I like writing at school.		
6. I have trouble thinking about what to write.		
7. It's fun to write things at home.		
8. I like to share my writing with others.		
9. Writing is fun.		
10. I wish I had more time to write at school.		
11. I think I'm a good writer.		
12. I like to write.		
13. I like to write e-mail or chat online.		
14. Writing is hard.		
15. I like writing on the computer.		

16. I like it when others read my writing.		
17. I like others to comment on my writing.		