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Student Teacher Blogs as a Method to Increase Reflection and Collaboration

By Matthew Vick

Abstract

A group of eight student teachers made weekly posts to a common blog to communicate with each other and their university supervisor (the researcher). This naturalistic inquiry studied what type of posts the students made and determined whether the student teachers collaborated with each other or reflected on their own teaching practice through the use of the blog. The postings were categorized into two groups: professional interactions and social interactions. The postings showed many examples of reflection about instruction and classroom management, but few examples of critical reflection on the curriculum or power structures were noted. Students described collaborating with their cooperating teachers, but they did not show much evidence of collaborating with each other through the blog.

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By Matthew Vick

Student teachers need modeling of professional reflection and collaboration using emerging technologies. Blogs allow the student teacher to reflect and communicate professionally and to respond to other students experiencing similar circumstances. This paper describes a case study of one group of students who used a blog during their student teaching experience. The study sought to discover how the blog contributed to the students' reflection on the act of teaching and collaboration with each other.

Theoretical Framework

Electronic communication opens up many possibilities for dialogue between student teachers and their university supervisor. Additionally, reflection during the student teaching experience allows for students to critique their own teaching, but the reflection often focuses on technical considerations rather than critique and reform.

Technology in Teacher Education

Hrastinski (2008) categorizes electronic technologies that assist in teaching and learning as asynchronous and synchronous. Asynchronous e-learning, such as a blog or discussion board, can occur when learners and instructors need not be online at the same time. Synchronous e-learning, such as a web conference, requires that learners and instructors be online and communicate "live." Hrastinski used Hawthornthwaite's (2002) three types of communication (content-related, planning of tasks, and social support) to analyze asynchronous and synchronous e-learning. He concluded that asynchronous e-learning best supported reflection on complex issues that were content-related and synchronous e-learning best supported planning and making acquaintance with people.

Mayer (2002) analyzed the use of an asynchronous electronic bulletin board with secondary student teachers. Her study reported that the technology helped link students to colleagues for professional and personal support during their student teaching experience. It also linked students to university faculty and staff. The flexibility of posting was a positive

characteristic, but there were several challenges: irrelevant, inappropriate, and excessively negative postings and concerns about the perceived permanent nature of their postings. The postings also were more focused on the mechanics or "how" of teaching rather than deeper discussion of "why" questions. Therefore this electronic bulletin board did not appear to report large amounts of reflection on the part of the student teachers.

Blogs, another type of asynchronous communication, are interactive online journals. An editor allows the user just to type with a word processing tool rather than having to learn HTML programming languages. While they are similar in function to an electronic bulletin board, they have additional functions. Readers can comment on the postings, which can lead to a sense of online community (Godwin-Jones, 2003). Most blogs are individually authored, but there are group blogs. Blogs also present the postings directly upon entering the website whereas discussion boards on sites like BlackBoard® give a list of subject lines upon which a viewer clicks to read the posts. Wikis, unlike blogs, involve a group of writers writing and revising a single document.

Yang (2009) used a blog with student teachers in Taiwan. The study showed that the student teachers engaged in discussions that were reflective and sometimes critically reflective. Wang and Hsua (2008) used a blog with pre-service teachers in a reading methods course to engage students in reflecting on issues of race and diversity. These researchers included example questions and sample articles to provide their student teachers with a framework to guide their blogging. They found that blogging helped the instructors facilitate in depth discussions and debates and encourage participation by students who were uncomfortable with face-to-face discussions.

Through the use of journaling by Australian student teachers, Wilson and Cameron (1996) found that the students experienced tension during their field experiences. While journaling is not exactly the same as blogging, students are reflecting in a similar manner. The reported tensions were balancing friendliness versus authoritarian classroom management, a well-managed classroom versus quality learning, and academic outcomes versus personal student needs. They concluded that the underlying tension was between pupil centered relationships and managerial approaches.

Collaboration

Collaboration can take many forms. Horn (2005) states that collaboration should result in pedagogical content knowledge (PCK) amongst teachers in a particular school as opposed to individual PCK. Philips and McCullough (1990) stated that problem solving or planning were needed to classify teacher cooperation as collaboration. Zahorik (1987) has noted a lack of teacher collaboration in terms of methods, objectives, questioning, and evaluating while they instead focus on exchanging lesson plans and discussing classroom management. Student teachers need scaffolding from their cooperating teachers to assist them in their own development of PCK (Vygotsky, 1978). If this scaffolding involves planning of methods, questioning, and assessment, it is an example of collaboration. Guskey (2002) found that teachers accept new practices if they are able to first use them in a safe environment while observing the results of the new practice.

This study looked for evidence of collaboration between the students in their blog posts. Evidence would include questions and statements related to lesson planning, questioning, evaluation, and classroom management. Evidence also emerged for collaboration between students and their cooperating teachers in terms of lesson planning, questioning, evaluation, and classroom management.

Reflection and Student Teaching

Many researchers have offered descriptions of reflection by student teachers. Three definitions useful for this study follow. Jay and Johnson (2002) defined three dimensions of reflection: descriptive, comparative, and critical. Descriptive is a summary of what happened, comparative analyzes alternatives, and critical reviews the implications and makes a judgment. Ho and Richards (1993) described critical reflection as that which goes beyond summarizing and reporting to including judgments, indications of contradictions, and discussing alternatives. Watts and Lawson (2009) defined critical reflection as teachers evaluating their teaching practice in a critical way that results in a judgment about their future actions. Their experience was that student teachers do not critically reflect upon their teaching using theories of teaching and learning about which they have learned themselves.

Four studies that involved students reflecting on their practice during student teaching are reported to give a context to the themes expected by the students in this case study. A collective case study by Bates, Ramirez, and Drits (2009) gave evidence that the university supervisor must

explicitly model critical reflection in order to develop this practice in student teachers. Janssen, du Hullu, and Tigelaar (2008) found in a study of 16 student biology teachers that when they reflected on positive experiences they constructed more innovative analyses than when they reflected upon negative experiences. This study was based upon "positive psychology" (Seligman & Csikszentmihalyi, 2000). Watts and Lawson's study involved student teachers from the United Kingdom in reflective evaluation of lesson plans using the Ward and McCotter (2004) rubric. This rubric classifies levels of reflection as routine, technical, dialogic, or transformative for the categories of focus, inquiry, and change. They concluded that the use of the rubric on lesson plans posted on a discussion forum led to students critically reflecting upon their own beliefs and personal theories. Mahlios, Soroka, Enstrom, and Shaw (2008) found that student teachers were focused on issues related to planning and teaching, then classroom management, then student and teacher subcultures.

This study will use an asynchronous medium, the blog, by student teachers during their field experience and seeks answers to the research question: "How does the use of a blog during student teaching promote reflection and collaboration amongst the student teachers?" The results of this study inform the practice of university supervisors as they construct reporting methods for their students in the field. Technologies such as blogs, wikis, and YouTube offer new possibilities for reflection and collaboration not possible with older methods of reporting such as weekly emails to the supervisor. These technologies also allow greater opportunities for student teachers to construct their own meaning out of their field experiences as they present their reflections to their peers as well as their supervisor.

Methodology

This case study consists of a group of elementary and middle school student teachers that were assigned to the researcher as his student teaching supervision load. Six of the eight student teachers agreed to be a part of the study. Five of the six were interviewed. Becky allowed her blogs to be researched, but she did not have the time to be interviewed. All student teachers, including those not in the study, were asked to make a weekly blog posting to a semi-public blog that required a password to view. This blog replaced the university's standard weekly email report required of all student teachers. Students were encouraged to make comments on each other's postings. They were asked to minimally post what occurred in the past week and what they planned for the next week. The exact directions as printed for the students are in Appendix

A. The researcher/supervisor responded with comments on the blog for weeks 1-3. After that point, he sent a private email to the student responding to her reflection. This was done to reinforce to students that the supervisor was reading their blog posts as he felt that students were not reading his comments posted on the blog. Figures 1, 2, and 3 show screenshots of the blog.

The data collected for this case study includes the blog postings of the participating student teachers as well as interviews conducted with them. Two interviews were conducted: halfway through the placement and near the end of the placement. The interview protocol is in Appendix B. All but one of the student teachers also participated in a face-to-face student teacher seminar held on the college campus. This seminar met three full days during the semester and was conducted by a different faculty member than the supervisor. This seminar also involved the students reflecting on their experiences. It is referenced in some of the interviews.

The researcher coded the blog postings using the methodology of naturalistic inquiry (Lincoln & Guba, 1985) since the blogs were the natural products of the university requirement for students to communicate with their supervisor during student teaching. The data were analyzed according to the strategy of analytic induction (Goetz and LeCompte, 1981, p.57 as cited by Lincoln & Guba, 1985). This strategy involves the researcher scanning the data and forming categories for chunks of data. Groups of sentences that had similar purposes were categorized together. The researcher began by coding one student's blog entries. The categories that emerged were then used on other student blogs. As coding proceeded, the categories were combined based upon overlap or redefined when contradictions were found in the data. For example a reporting category was created separate from the reflecting categories because these sentences were summaries of events and not analyzing practice. The reflection categories were split into separate categories such as school and classroom when the original category became too broad. The personal communication category was formed as a result of overlap between the family and self-communication that resulted in unclear boundaries, so they were combined into one category. Thirteen categories emerged; they are listed in Figure 4.

Two broad groups then emerged that classified the thirteen categories. As Lincoln and Guba (1985) suggest, these are *a* classification system and not the only possible way of analyzing this data. The interviews were transcribed and coded in a similar manner. The student views shared in the interviews on the blog were used to validate the findings of the blog analysis.

Findings

This case study analyzed the blog postings made by the student teachers and the interview transcripts. Most of the reflections were descriptive rather than critical. Themes about reflection and collaboration were highlighted to answer the research question of this case study: how blogs affect student teacher reflection and professional collaboration.

Blog Analysis

Student blog postings were categorized into thirteen general categories that emerged as the researcher read through them. They are listed in Figure 4. The term posting is here used to indicate the parts of the entire text that a student wrote on the blog for each week. The posting categories were then grouped into two overall themes: professional interactions and social interactions. Pseudonyms are used for all participants and all quotations are exactly copied from the blog, including spelling and grammar mistakes.

Professional Interactions

Student blog postings that were described as professional interactions demonstrated how the student teachers reflected on their experiences as a student teacher. The students did make factual reports of activities and events that occurred in their classrooms and schools, but they also made many posts that were categorized as reflecting on the practices of the classroom, the school, and themselves. A few examples of collaboration between the student teachers and their cooperating teachers were also posted. Future plans for the upcoming week were often presented, but this was also a requirement from their university supervisor to keep him aware of their plans. Frequency counts for the number of blog posts classified in each professional interaction category are found in Table 1.

Reporting Events

Many student postings were reports of the activities that the student teacher either observed or conducted during the past week of teaching. These posts mostly did not involve further reflection on the experiences, although occasional comments about the classroom students enjoying the activity were posted. This category is similar to Jay and Johnson's (2002) descriptive category.

Many of the reports stated activities that were occurring in the classroom or school. For instance, Becky reported "On Thursday we had the chance to watch the 4th grade classes put on their spring music rehearsal." Sarah described the experience she had at the school level: "The

teacher is on several committees so I have attended some meetings with him which has allowed me to meet other staff! I have also attended an IEP for one of our students who was qualified LD."

Many of the reports were statements about the lessons that the student teachers had conducted during the previous week. For instance, Kelly reported that "This week in science we practiced our periodic table of elements and figuring out the number of protons, electrons, and neutrons in each element." Isabell gave the following report: "I finished my science unit which I planned and taught for the most part on my own. It went well." Laura stated that "I started teaching the 2nd social studies class, and it went really well. We just finished up Ancient Mesopotamia, and I planned out a unit for Egypt that we will start in week 7." Overall, the posts classified as reports of events did not show many examples of reflection or analysis of the teaching experience; they were descriptions of what happened.

Reflections about the School

In addition to reporting events, students made several remarks that showed that they were reflecting upon their experiences at the school, classroom, and personal levels. Parent/teacher conferences were discussed by several of the student teachers. They mostly praised the techniques used by their cooperating teachers. Reflections about in-service training included both positive and negative comments. Students also included other observations about drugs and homework completion in their schools.

Many of the school level reflections involved parent teacher conferences. Students made observations about the format of the conferences and the professional skills that they felt their cooperating teacher showed. Kelly shared how her experience with the conferences gave her the opportunity to see how her cooperating teacher handled parents who wanted to take the conference in a negative direction:

> He would be quick to point something positive and state that middle school is a time to learn to balance social life and academic life and we would work to together to find a good balance. Parents and guardians responded well to this.

Nellie also focused on her cooperating teacher's approach to the conferences. She focused on how the teacher had built relationships with his students:

> We had student/teacher conferences and they were incredibly educational... Mr. Smith handled each one with ease and grace, even the ones that I was nervous

about. He was always honest and no matter how many students were struggling in the class, always had something positive to say about them.

Experiences with district in-services and training were also shared. Two of the student teachers shared their thoughts about how the experiences had not seemed useful. Kelly said "This week started off with Monday afternoon's in service meeting. I felt it was not very productive as I am told is normal." Laura shared a similar sentiment when she wrote "Yesterday, the kids didn't have school, so I attended my first in-service.... Honestly, I don't think much was accomplished! The principal didn't even come!"

Sarah described a positive experience when she learned about her district's writing evaluation. This contrasted with comments that others made about the use of in-service training. She wrote,

> This week I had the opportunity to be apart of the district writing evaluation
> alongside with my cooperating teacher. This was a very unique experience I was
> able to have and am glad I had the opportunity to attend.

Several other school level reflections did not fit into larger trends, but they showed that the students were thinking about the schools in which they were working. These included concerns that the schools were covering up some of the social problems faced by the school. Kelly reacted to a drug search in one posting:

> My middle school had a soft lock down on Friday. The police brought in drug
> sniffing dogs. The local paper said no drugs were found. I have family in the
> police department and I was told arrests were made; the city doesn't want people
> to know about the drug problem!

She also remarked about problems with students turning in their homework and how her team of teachers was addressing it:

> One big problem we have in our sixth grade house is students not handing in
> work. They just don't seem to care. The students had a biography report due on
> Monday they needed to present. In each of our 4 classrooms only half or less had
> it done!! The teachers called parents! It did not help much.

Overall, the student postings that were categorized as school-level reflections showed how the student teachers critiqued and evaluated the situations in their local schools and shared their thoughts about them. Positive traits that they observed—such as how a teacher handled

conferences—were included, as were negative traits such as a school not reporting drug problems accurately in the local press. The reflections did not often critically question the prevailing practices in schools, such as the purposes of a drug search or possibilities for professional development. The student teachers mostly reflected on whether or not they felt a certain practice had practical results.

Reflections about the Classroom

Student teachers also posted many reflections about their classrooms both in terms of instruction and other activities. Reflections showed evaluation of the experience on the part of the teacher instead of merely reporting back details of an activity. Many of the student teachers reflected on how successful a lesson or activity was. They also reflected on how certain tasks or lessons did not work out well. Many comments were made about how the students did not perform as well as the student teacher expected them to perform. Student behavior was also a common theme with reflections on classroom activities. As noted with the school level reflections, there was no critical analysis or questioning of structures, most of the reflection revolved around practical concerns.

Student reactions to lessons were commonly posted. For instance, Becky said "My second graders have started their pen pal exchange with students in New York, and they love it. They are so eager to write to their pen pals any chance they can get." She also commented on student success with remembering facts about authors: "Our Reading targets for fourth quarter are covering the elements of fiction. It amazes me how familiar my students are with author's names and what kind of author. They really impress me!" There was no reflection on how this knowledge was of value to students.

Sarah reported about a field trip to the local museum and how students behaved better than expected on the field trip: "Some of our students who don't always behave appropriately were with my cooperating teacher and me. They were so well behaved throughout the day, we were really proud of them." The student did not question why student behavior might be better during a field trip rather than in the school. Kelly shared a similar experience with a field trip to a local technical college:

They were able to see and try out different things in several classes. For example, spraying a fire hose in the fire fighter area, making food in the culinary arts class,

and planting seedlings in the horticulture area. It kept the kids engaged and as a result they behaved well.

Sarah also reported on how the students enjoyed writing limericks:

> This week I also began a weekly lesson on poetry to the students. The lesson was on limericks and we connected them to St. Patrick's Day. The students were very creative with the limericks they wrote and seemed to really enjoy writing them! I created a bulletin board to display them outside our classroom.

This comment on St. Patrick's Day showed no questioning of why a religious holiday is marked at a public school; that would have been an example of a critical questioning of current structures. If St. Patrick's Day was viewed as an ethnic holiday rather than a religious one, there still was no critique of why Irish heritage was emphasized on that day and why numerous other heritages were not emphasized in the curriculum.

> Nellie shared how an independent study unit was working in her classes and how she felt it benefited the students:

> We have a 'guided' self-paced week this week. What that means is they take notes on the reading and then come to show me their notes and then get to choose between 3 options of worksheets per day. We call it a self-paced week, but it is very structured. It seems to be working really well. It is giving the students the opportunity to take a chapter and study it on their own with guidance. Great practice for high school/college.

This reflection evaluated the activity, but a critical reflection could have further questioned what students learned from this self-pacing. For instance, are certain philosophies about work ethic being taught? Further, did this self-pacing benefit all students equally, or did it disadvantage some?

> Postings on areas where students struggled also showed how the student teachers were reflecting on their instruction and student learning. Kelly shared her analysis of student achievement on a science test:

> I gave a large science test on Thursday that was not designed by me. I was discouraged and almost in tears when I corrected these tests... Because I have done a research paper on the ways boys vs. girls learn both math and science I did

some research with this test. Results are 81% of the girls received a 70% or higher and 72% of the boys did. However, more boys got 90 or above than girls.

Isabell wrote about how she was surprised at the lack of graphing skills she found with the students in her seventh grade classroom:

> I am still baffled at the fact that these 13 year olds cannot set up a graph. We did two graphs in class and then there was a super simple graph on their test and I'd say at least 50% of them did it upside down, another 10% did it sideways, and some of them…I don't even know how they got the answers they did. Shouldn't they be able to graph by now?

This reflection did not question her or the school's assumptions about students' abilities to graph, nor did it evaluate the ultimate value of conventions in graphing.

> Sarah made observations about the math skills found in her second grade classroom:
> I am teaching fractions in math to the second lowest group of students based on their scores from the chapter pretest. This has been somewhat challenging since we had the highest scoring students in our prior chapter. I have needed to scale back some of the expected work so the students are focusing, understanding and learning the necessary information.

Again, this reflection shows her thoughts on changing her instruction, but it does not involve questioning this division of students by skill level and the implications of that practice. Laura also reported on having to re-teach math content in her sixth grade classroom:

> We started a geometry unit, and I have ended up having to re-teach a lot because they aren't picking up on the concepts as quickly as we thought they would. I have also learned that sometimes I plan too much for one day, and I have had to try to get used to knowing when to cut things out, or stretch activities to 2 days.

Kelly wrote about how she addressed a problem with the seating chart in her classroom:

> My cooperating teacher allowed the students to pick where they wanted to sit in class for the last quarter. It is not working!! So, I wrote up new seating charts and talk to him about the problem and he agreed with me.

The blog postings that showed classroom reflection shared successful fieldtrip experiences and lessons as well as concepts that needed re-teaching. One student teacher worked with her

cooperating teacher to address a situation she felt was not working in terms of classroom management; this also serves as an example of collaboration.

Personal Reflection

Students also engaged in personal level reflection in their blog posts. These posts often included information on how the student teacher changed her thinking about some aspect of teaching or working with students. For example, Sarah wrote about how a district-level in-service caused her to think about her teaching of math. She included thoughts about how the curriculum in practice in the classroom may not be the same as the curriculum in a textbook: "Through attending this in-service I even found myself reflecting on my experience teaching with Everyday Mathematics and how my students are progressing with their reading through the guided reading program." Another student, Isabell, wrote about how she realized the pressure of scheduling lessons:

> I start teaching an oceans unit the last week of February. I thought that I would have plenty of time to cover everything. But this week I went through and counted all of the days that we had no school, or other activities that were going on and the 6 weeks that I had originally is now more like less than 20 days. I finally now understand why teachers are always so pressed for time and complaining that there is too much material for the amount of time they have.

Nellie wrote about how she realized the importance of reflection in terms of updating her content knowledge:

> I just finished up with my unit that I created from scratch. Wow! That was more work than I ever imagined. The fact that you want to check all of your information, even from the textbooks, is amazing... It really spoke to me in terms that we truly are reflective facilitators and not just feeding them information for the students to regurgitate.

The personal reflections that students made showed they were thinking critically about their role as a teacher. Many of the reflections classified as being about the school or classroom also included personal elements. These postings showed Jay and Johnson's (2002) critical level of reflection since the students made judgments.

Students were asked to include information about their future plans in their classroom so that their university supervisor was aware of their activities. Most of the blog postings in this category included either statements about topics that would be covered in the coming week or changes in the student's role in the classroom, such as taking on more responsibility.

Student posts about upcoming plans emphasized assessments as well as lessons. For example, Kelly wrote about her curriculum plans: "We are finishing up our ecology unit and taking the big test. I have planned a day of reviewing. Our next unit is electricity and then light." Isabell gave a similar report: "So, for the rest of the year we're still working on marine animals. The students will have to make a monopoly board with animal info on it." Sarah made a post regarding an upcoming assessment: "The week we return from Spring Break our students writing pieces will be being assessed by a panel within the district."

Statements about future roles that the student teacher would take on sometimes included emotional statements. For instance, Becky said, "Next week I will start teaching full time for three weeks straight. I am looking forward to it, as well as nervous. I know one of my biggest challenges will be trying to find various materials within the classroom." Sarah gave a report that focused on the content: "This week I am beginning to teach social studies. We do not have a social studies curriculum so my teacher has chosen to teach the seven continents." While the statements about future plans did show emotional concern about being prepared, student teachers again did not reflect in terms of questioning existing norms.

Collaboration

Student teachers also blogged about collaborating with their cooperating teachers. Student teachers did not appear to collaborate meaningfully with each other in terms of planning lessons, discussing evaluation methods, or sharing classroom management strategies. They posted responses to each other's blog postings, but most of these were in the form of support for what the other student teacher said.

Becky reported about a meeting with her cooperating teacher outside of the normal school day: "I too[k] the time on Sunday to meet with my cooperating teacher outside of the classroom. She was able to give me a lot of pointers on what I should know and prepare myself for when interviews begin." Nellie made a simple report on advice from her cooperating teacher that showed their collaboration at school: "My cooperating teacher has warned me about the 8th

grade mentality at this time of year and sure enough it is ringing true." Sarah also reported working with her cooperating teacher to learn about his procedures at the start of the school year. Her student teaching assignment was in the second semester, so this discussion was for her future professional use: "My cooperating teacher and I also took the day for him to share how he prepares and begins the school year. He gave me some copies of the stuff he does."

Sarah also shared an example of how she worked with her cooperating teacher collaboratively through her introducing him to a different curricular approach than the ones he used. She said:

> We introduced our students to the writing approaches of entertainment, persuasive and informational... They were encouraged to start with persuasive however there were students who were just writing a story and not understanding how to write persuasively. At the end of the school day I was talking with the teacher and asked him if they have ever used story webs, he said a little but not really. I explained I thought some students could benefit from the use of them and he agreed indicating I would teach a mini lesson about them soon, well soon turned out to be the next day!

The comments that students posted for each other most often showed support or reported similar situations rather than showing evidence for collaboration between the student teachers. For instance, Becky posted this comment on Sarah's blog:

> Sounds like you used your break pretty much the same way I did Sarah. I'm glad to be done with the District Writing Assessment finally. It has been neat seeing how my students have changed over time, but WOW! ... Hope you found a little time for yourself when you were on break!

Another comment by one student teacher to another again demonstrates support rather than collaboration. Isabell posted this comment to Becky:

> I think we all have students that just won't turn in homework or show any responsibility. I have a boy in my class that was doing really well up until last week when he just decided that he didn't need to do any of the work. He's a really smart student and nice but I will give the class work time and he will just sit there... I just don't understand why some of the students think that they just don't have to do anything.

This comment mainly serves to offer support for the fellow student teacher. Nevertheless, the sharing of experiences does constitute a form of collaboration through the sharing of experiences.

There was one strong examples of student collaboration with each other that went beyond sharing of experiences. Isabell included this question in her blog:

> We got a new student this week. I guess that he has a pretty unique past... He pretty much has no motivation to do anything. I can't really blame him. If I thought that I was just going to move schools again in a month I wouldn't see the point in homework either. So how do you go about motivating someone like that?

Laura posted this comment:

> Wow…that's interesting! I'm going to an in-service next week on 'motivating the unmotivated student.' Maybe I can give some tips :) Although, that is quite the tough situation! Also, don't feel bad about 'celebrating' the absent student. We have all done that at least once!

However, there were no further messages about the in-service by Laura or Isabell. Sarah also posted a response to Isabell's question:

> Maybe you can try some one on one time with the student. Let him know that you do care and that you want his experience in your classroom and at the school to be a positive one...

Two other questions were posted by student teachers to their peers, but they did not receive feedback. Becky asked "Is anyone using Columbia Teachers College 'Writers workshop model' in their classrooms? I'm interested to know if you are." Nellie asked, "I have one student that we are constantly pulling for and working with and are keeping in contact with his parents, but nothing seems to work... Wondering if anyone has any suggestion[s]?"

Overall, not much evidence of collaboration between student teachers was found in terms of solving problems at their schools. The blog did allow students to share their experiences, which several students reported was useful in interviews with the researcher. No students reported feeling that they had collaborated with the supervisor. He responded to their weekly posts with a private email, but only once did a student respond to that email.

Social Interactions

In addition to professional interactions, student teachers' blog postings also showed evidence of social interaction with each other. Some forms of social interaction involved sharing personal or family information. Other postings involved writing about emotional reactions to the events in the classroom and student teaching in general. These posts were divided into four classifications: statements sharing stresses caused by student teaching, statements revealing self-confidence in the role of being a teacher, statements sharing emotions about leaving their student teaching experience, and statements sharing anxiety about finding a job after graduation, particularly in light of the economic situation found in the spring of 2009 in Wisconsin. A summary of the number of posts that a student made for each category of social interaction is found in Table 2.

Personal Communication

Student teachers posted several statements about their personal, and often family, situations. These posts give some evidence that students were not strictly writing their blog posts as reports of their experiences and that their audience was not strictly the university supervisor.

Kelly made two blog posts referring to her son. One post explained how she felt better able to relate to students in her classroom through her relationship with her son:

> My reading class started a new story called *South Paw*. It is about baseball. The other teacher thought it would be cool if we had some baseball equipment. It just happened that I had all my son's equipment in my car and he is a lefty (south paw)! It was so fun because about 5 boys in the class play baseball with my son.

Another post she made related to an unfortunately incident that her son had:

> Sorry I did not post by Sunday. My son crashed on his bike and I spent mother's day in the ER. He is OK—just 6 staples in his head and a sprained elbow, but it put my whole day on hold.

This post did receive two comments from fellow student teachers showing their personal support. Laura posted: "Sorry about your mother's day! Glad to hear that your son is okay though!" and Becky posted:

> I'm sorry to read about your Mother's Day spent in the ER. I am sad too. I wonder also what this lovely job market will have in store for us as well. I'm

amazed how much 'we' do every day just to get ready plus juggle our lives beyond

the classroom. I wish you the best in your future endeavors.

Laura also shared a personal tragedy with the other student teachers: "Unfortunately, my step-grandpa passed away, so I wasn't exactly in the mood to teach." While these interactions are not necessarily collaborative, they do show that the student teachers interacted with each other on more than a required basis.

Students also posted comments celebrating moments in their lives. Laura posted: "It will be my fiancé's birthday, and I am taking him to the Brewers game on Tuesday night." Isabell made a post celebrating her upcoming graduation: "...I did run all over campus yesterday and got everything taken care of so that I can graduate. YAY!! It only took me 6 years, but I'm done hooray!!" These various personal posts showed that students used the blog informally as well as formally posting about their classrooms. Students also made a substantial number of posts sharing different emotions that they experienced during student teaching.

Stress from Teaching

Students made several posts that showed that they were experiencing stress as a result of the teaching assignment. Some were simple posts such as when Laura posted, "This week was pretty crazy for me." Another post: "This week was completely insane! We only had one day that was a 'normal' schedule!" Sarah posted, "What a CRAZY week." Other posts gave more information about the situations that caused the stress.

For example, Isabell shared information about the stress caused by her cooperating teacher leaving for a school field trip while she was left working with a larger class and a substitute teacher. She posted:

OMG, what a week! Half of my students left for Washington DC on a school trip…as well as my cooperating teacher. That left me with all of my normal classes, plus two more science classes and an extra 10 kids in my homeroom. Oh yeah, and another study hall. Sigh... I felt like it was going to be almost impossible to get anything done.

The postings where students shared the stress factors in student teaching or in their lives provides evidence that they did not use the blog solely as a mechanism to report on what was happening at their schools. Student teachers also made several posts that showed that they had increasing confidence in teaching as well as stress, which is discussed next.

Students made several posts that shared self-confidence as a teacher. The posts in this category fell into two groups: posts sharing how the student teacher personally felt successful in the classroom and posts sharing how the student teacher received external praise about their performance.

Students made several posts that reported on how a lesson went successfully for them. For example, Kelly reported: "I taught the atom model introduction as 'The Atom's Family.' They got a kick out of that and enjoyed learning the parts of the atom." Becky's statement was about an overall feeling of success after her first week of student teaching: "My first week ... went really well for me. I was so pleased how quickly my students have warmed up to me being in their classroom." Laura posted about she felt connected with her classroom and was reluctant to go to meetings on Thursday: "I have really started to connect and take ownership of the classroom, so I didn't want to have to turn it over to my coop [cooperating teacher]. I felt like I missed something!"

The student teachers also made several posts that reported how other adults had praised them as a teacher. Kelly shared a positive comment made by a substitute teacher about her classroom management abilities:

> The sub said "You sure do have control of these students." I feel like I do, but I am very firm and do not allow any misbehavior. The rules are set and I expect them to [be] followed...Laura also reported positive comments made by a substitute teacher: "I had a sub on Monday and Tuesday. She gave me a nice compliment by saying that it seemed like 'I had been teaching for years and was a pro.' That made me feel good."

In addition to praise by a substitute teacher, Laura also reported praise from an administrator: "The associate principal observed my social studies lesson on Tuesday...my observation went really well!"

Sarah reported comments from parents at conferences that gave her confidence as a teacher: "Overall our conferences went really well and am glad I got to meet the students['] parents. Some of the parents even shared how much their student is enjoying having me in their classroom which made me feel really good."

The self-efficacy posts that showed growing confidence in teaching ability again provided examples of how student teachers shared more information than just reports on their classrooms. While the posts are not examples of collaboration, they do show the student teachers feeling connected enough to each other to make such posts.

Emotion about Finishing Student Teaching

As the semester drew to an end, many of the student teachers made posts about how they enjoyed their student teaching placement and would miss it. While the posts do not show evidence of collaboration, they provide further evidence of a social space that the student teachers felt existed on the blog.

Overall, these posts show that the student teachers felt connected to the schools at which they were placed. While not evidence of collaboration with each other, it does suggest that the student teachers became a part of the life at their school. Kelly stated: "I will hate to leave [my school] and all the friends I have made. June 11th will be a sad day!" Becky shared similar sentiments when she posted: "It will be hard to say good bye to all my students and the nice people I have worked with here..." Nellie reported a positive experience but showed eagerness to move forward: "I am still really enjoying this experience and can't wait to teach in my own classroom." Sarah's comments were along similar lines: "Needless to say these weeks are going to go fast and I have to admit I am eager to start my career but will really miss the students and this school!"

Worries about the Economy and Finding a Job

The final category of blog posts involved those that shared concerns about finding a teaching job in light of the economic conditions of the spring of 2009. This category could also have been placed in the professional interactions since career building can involve professional networking; however, it was included in the social interactions theme since the students focused more on their own emotions and anxiety about finding a job rather than looking for information.

Kelly made a post that mostly showed her reflecting on whether her efforts in student teacher would benefit her in the future: "I have found myself wondering why I am doing this? There are no teaching jobs." Nellie shared similar comments about worrying that her knowledge and experience would be lost if she did not find a job for the following school year:

I applied for a job here at the middle school and it sounds like there are many

applicants. This seems to be a stressful experience. My fear is not the part about

not getting a job but to gradually lose all of the amazing education that I have received...

Laura reported her frustration with a local recruitment fair. A final example from Becky showed optimism of finding some type of job, but nevertheless acknowledging the frustration caused by the situation: "my biggest fear right now is not finding a job till late August or having to sub till something does open. :("These posts again give evidence that the blog was viewed as a social space by the student teachers and not merely a place to report on their classroom experiences.

Student Perceptions about the Use of a Reflective Blog

Student teachers were interviewed twice, once halfway through the semester and a second time near the end of the semester. The student teachers' thoughts about the use of a blog as a means of reporting their experiences to their university supervisor showed that they mostly thought of the blog as a meaningful way to read about other student teachers' experiences and to possibly get or give help to each other. There was one student teacher who referred to collaboration. When asked about collaboration, student teachers mostly responded in terms of working with their cooperating teacher and school personnel, not their fellow student teachers. None of them made any comments about collaborating with the supervisor. Therefore, student teachers did not perceive the blog as promoting collaboration between student teachers other than in a few instances of them asking for help.

Several students remarked how the blog allowed them to share experiences. Sarah said, "It's still interesting to hear about…the different experiences and see what's similar and what's different." Kelly said, "That's what I liked about the blog, is that I could go in and just look at what other people had to say, or they could respond to me." Laura made a similar comment: "I like the idea that you can kind of read about other people's experience."

Two students noted how the blog did reassure them that other student teachers faced similar problems to them. While not collaboration, this does show some emotional support between the student teachers. Isabell said,

> ...it's nice to like have the blog there to know that other people are struggling with the same things. Even sometimes I'll write something and think like, 'oh these guys can't be dealing with the same thing that I'm dealing with...' and then they're

like, 'oh my gosh, me too' and it's nice to be able to vent to other people that are

going through the same thing.

Kelly's comments were very similar: "It is reassuring to see that other teachers are struggling with some of the same issues as I am. Issues such as classroom management, discipline, and differences in teaching styles seem to be common across all student teachers."

Two comments stated the blog served mostly as a reflective tool rather than a collaborative tool for the student teachers. Nellie commented that,

you're just reflecting on your teaching, and, and just kind of summarizing what

happened in that one week ... your best resource is going to be really your ...

faculty staff, because they're going to know your students even better...

This showed that she valued the field collaboration but did not find the blog offering collaboration. Sarah's posting also showed a sentiment that the blog helped mostly with reflection: "I think the blog has helped me. I don't necessarily know, per se, in my student teaching, but I think in my reflection and stuff…"

Students gave several reasons that they liked the blog that did not relate to collaboration, but did show that it offered more than a weekly email to the supervisor would have offered. Kelly liked the ability to see responses: "That's what I liked about the blog, is that I could go in and just look at what other people had to say, or they could respond to me." Isabell wrote about how she liked the ability to choose her own topic for reflection versus the standardized university weekly report. Laura noted that the blog allowed everyone's voice to be heard unlike the group meetings or student teacher seminar where some student teachers dominated: "...there's a few people in our group that during our meetings, they kind of take over, and they always talk, and it's kind of hard to get a word in sometimes ..."

In summary, while the student teachers did not give many indications that they felt that the blog gave them an opportunity to collaborate with each other; it did serve a useful function in terms of connecting student teachers with each other and allowing them a space to express their concerns and to receive some support from each other. This seems to indicate that a professional learning community was enhanced through the blog.

Discussion

The use of blogs with student teachers resulted in many useful experiences for the student teachers, but they did not promote significant collaboration between the student teachers. An

analysis of the blog postings by students showed that they did engage in some reflection through the blogs. Many examples of students making meaning out of their classroom experiences were given. Student teachers occasionally asked each other for help and received some responses. The blog also facilitated social interactions as the student teachers posted about their personal and family lives as well as stress in finding a future job. Interviews with the student teachers confirmed that they saw the blog mostly as a reflective tool and not a collaborative tool. The student teachers thought of collaboration mostly in terms of how they worked with their cooperating teacher.

Using a blog for students' weekly reflections shows advantages over an email that goes only to the supervisor. The semi-public (password protected) space of the blog allowed student teachers to share concerns and stressful situations without the information being widely available on the Internet while allowing the student teacher to communicate with people in the same situation rather than only a university supervisor. Student teachers reported liking the ability to read about other experiences and situations. With the student teaching assignments varying in grade level from second through eighth grade, it is possible that collaboration was not seen as a useful function of the blog if they saw their situations as too different.

Student teaching is an intense learning process for student teachers. The experience often moves them away from the university and its faculty/staff support. Emerging technologies provide mechanisms for maintaining this support, but further exploration into promoting collaboration between student teachers is needed.

Implications

This study suggests that a blog can be an effective tool promoting reflection and a sense of community among student teachers; however, additional prompting by the supervisor appears to be needed in order to engage students in critical analysis of their teaching rather than only summarizing it. This can be accomplished in at least two ways: the supervisor can email the student teacher asking for elaboration about a certain posting or the supervisor can leave a comment after the student teacher post. This study did not require commenting on each other's posts by the students, so there were few comments posted and even fewer responses to comments. The supervisor sent emails to students asking them to comment on other posts, but students did not comply. It is hypothesized that students saw their day-to-day teaching as the major assignment of student teaching. The grade for student teaching is also pass/fail, and it is

probable that the students felt they would not be failed for not commenting on other students' posts. Thus, under these conditions, the supervisor needs to appeal to students' intrinsic motivations while also avoiding the appearance of creating extra work that does not relate to the work in the classroom. This confirmed the findings of Mahlios, Soroka, Enstrom, and Shaw (2008) that student teachers focus most on planning and then on classroom management rather than critical reflection on curriculum and school structures. It also confirms the finding of Bates, Ramirez, and Drits (2009) that instructors must model critical reflection. In the future, this researcher/supervisor plans to post a blog post each week that models critical reflection upon topics that students posted about in the prior week. The blogging software used displays posts immediately upon logging in to the system while comments require clicking on a link. Thus, this model critical reflection will be immediately visible by students when they make their blog postings.

Missed opportunities for critical reflection by students involved St. Patrick's Day and an independent study unit. One student did analyze the drug policies of her school when drugs were found but the school reported to the public that no drugs were on the campus. In order to prompt students' critical reflection on the inclusion of certain holidays, such as St. Patrick's Day, and the exclusion of many other celebrations, the supervisor could post a blog question such as "What message do you think the inclusion of St. Patrick's Day in the school's curriculum implicitly sends to students? Can you think of other cultural and ethnic celebrations that are ignored by many schools?" The independent study unit was supposed to promote independent learning necessary for high school and college studying. A future supervisor blog question could be "Which students does an independent study unit benefit? Which students does an independent study unit hurt? Are all learning styles taken into account when creating such a unit?"

The limitations of this study include the small sample size, participants all being white females, and the different subject matter and grade levels that the students taught. Future studies should investigate how the size of the group on the blog affects participation and critical reflection. Also, if researchers and supervisors are able to arrange cohorts of students teaching similar subjects at similar grade levels, the opportunities for collaboration with a blog may differ.

Thus, while the blog created an effective social space as well as an area for descriptive reflections, it requires greater participation by the supervisor to promote critical analysis of the experiences in schools. This researcher proposed including supervisor posts directly in the blog

that ask critically reflective questions the following week. These questions will need to be intrinsically motivating since the grading format in the university in this case study only allows for pass/fail options and the supervisor/researcher hypotheses that students feel that they will not be failed for minor non-compliance with the directions given by the supervisor.

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Appendix A
Student Teacher Directions

For your weekly reflections, you will be making them via a blog at blogs.uww.edu. This format will allow you to collaborate and reflect with your student teaching peers in addition to your supervisor. You are asked to post a response to 2-3 other people's postings each week. While the blog will only be open to student teachers in this group and your supervisor, be aware that someone could copy your posts, so you should always use professional language and not refer to coworkers in a way that they could be identified. **Please post by Sunday night** for the past week. You may print out your postings as an artifact for WTS 9 for your portfolio. If you do have confidential material to share, please email me.

Appendix B
Interview Protocol

1. Please describe how your thoughts on teaching have changed from the beginning of this semester.

2. Please describe how your thoughts on the reflective practice of teachers have changed from the beginning of the semester.

3. Please describe how your thoughts on collaboration between teachers have changed from the beginning of the semester.

4. Please describe any ways the use of the Blog for your reflections has impacted your teaching.

5. Please describe any ways in which the (face-to-face or MeetingPlace web conferencing) conferences have impacted your teaching.

Follow up questions were asked to clarify student responses.

Figure 1

Screenshot of the blog upon logging on.

Figure 2

Screenshot of comments to a blog post.
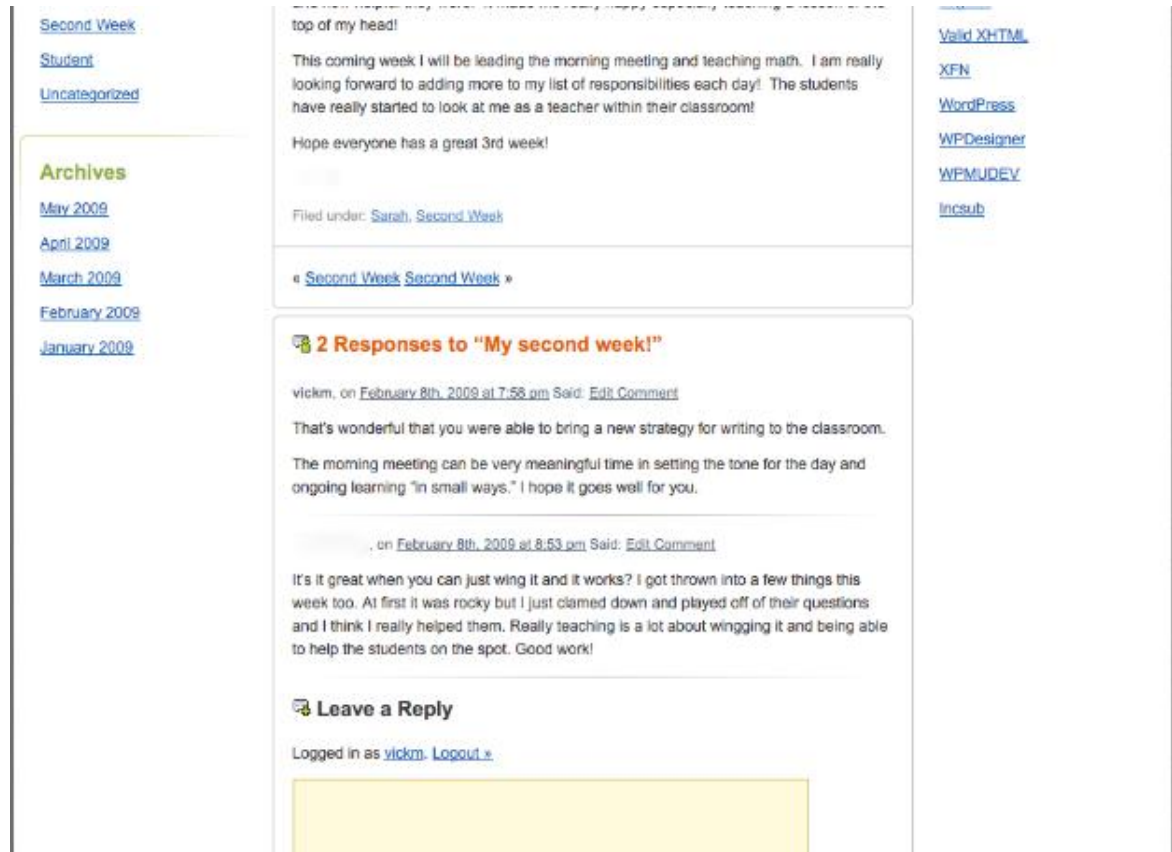
Figure 3

Screenshot of categorized blog postings by one student.

Figure 4

Categories of blog postings.

Professional Interactions

     1.   **Reporting events**

     2.   **Reflections about the school**

     3.   **Reflections about the classroom**

     4.   **Personal reflection**

     5.   **Future plans in the classroom**

     6.   **Collaboration**

Social Interactions

     1.   **Personal communication**

     2.   **Stress from teaching**

     3.   **Confidence in teaching**

     4.   **Emotion about finishing student teaching**

     5.   **Worries about the economy and finding a job**

Table 1

Number of blog posts per professional interaction classification by student

	Becky	Isabell	Kelly	Laura	Nellie	Sarah	Total
Reporting Events	14	12	9	14	6	15	70
Reflection-School	1	-	5	5	-	2	13
Reflection-Classroom	5	6	5	5	4	8	33
Reflection-Personal	-	5	2	2	4	3	16
Future Class Plans	6	6	6	10	4	8	40
Collaboration	3	-	-	-	1	4	8
Total	29	29	27	36	19	40	180

Table 2

Number of blog posts per social interaction classification by student

	Becky	Isabell	Kelly	Laura	Nellie	Sarah	Total
Personal Communication	2	-	3	5	-	-	10
Stress	2	3	2	9	3	3	22
Confidence	4	-	2	6	2	5	19
Emotion	1	2	2	3	2	3	13
Worries	4	-	2	2	1	1	10
Total	13	5	11	25	8	12	74