"WE DON'T HAVE THE LIBERTY OF BEING BRAINLESS":
EXPLORING PRE-SERVICE TEACHERS' USE OF WEBLOGS
FOR INFORMAL REFLECTION

Melanie Shoffner

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Approved by
Advisor: James Trier
Reader: Cheryl Mason Bolick
Reader: Suzanne Gulledge
Reader: George Noblit
Reader: Dwight Rogers

ABSTRACT

MELANIE SHOFFNER: "We Don't Have the Liberty of Being Brainless":
Exploring Pre-Service Teachers' Use of Weblogs for Informal Reflection
(Under the direction of Dr. James Trier)

Pre-service teachers enter teacher education programs with a working practical theory formed from personal experience, knowledge and values. By engaging in reflective thinking, pre-service teachers reaffirm, reassess and recreate the practical theory that guides their actions and beliefs on teaching and learning. Weblogs, an emerging technology in teacher education, offer a new medium for reflective practice. This dissertation explores the tripartite elements of practical theory, reflective practice and weblogs as explored through a qualitative research study conducted in a secondary MAT program at a large southeastern university. Through the qualitative content analysis of weblog postings, focus group interviews and individual interviews, a grounded theory emerged to support weblogs as a forum for informal reflection.

The research undertaken in this qualitative study reveals the positive potential of weblogs in pre-service teachers' reflective practice. The informality of weblogs, their accessibility through the Internet and their ability to support communal interactions on-line are positive features of weblogs. These features, in turn, support informal reflection, a component of reflective practice produced by the interaction of practical theory, flexible structure, personal expression and communal interaction. Informal reflection is not a substitute for the formal, hierarchical (and necessary) reflection frequently found in teacher education but a facet of the reflective process that, with further study, may prove to be a valuable component of reflective practice for pre-service and practicing teachers.

DEDICATION

To Christa, Emily, Katie, Amber, Julian and Ashton:

My nieces and nephews have supported me on this journey for the past four years by providing the love and laughter needed to make the completion of this work worthwhile. I hope that, in some small way, I have shown them that the road less traveled is indeed the road worth taking.

To my strongest supporter:

You pushed me to pursue doctoral study when it would have been easier to follow a different path. You believed in my ability to succeed in spite of – and because of – the obstacles in that path. Thank you for not giving up.

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This work could not have been accomplished without the support, guidance and good humor of many people.

To my pre-service teachers, Kate, Davis, Nicole, Shannon, Zach, Lauren, Colin, Eric and Abby: Thank you for serving as the foundation and heart of this work. I cannot thank you enough for giving so freely of your time and your thoughts.

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To my advisor, Dr. James Trier,
and my committee members, Dr. Cheryl Mason Bolick, Dr. Suzanne Gulledge,
Dr. George Noblit and Dr. Dwight Rogers:
Thank you for your patience and your encouragement; you made this process much more enjoyable than expected. Most of all, I thank you for the freedom to create, research and write in a way that ensured my dissertation would be personally meaningful.
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To my parents, Harold and Martha Shoffner:
Thank you for supporting your hard-headed little girl, however far-fetched her ideas or difficult her choices. I am proud to be your daughter.

PREFACE

That is what learning is. You suddenly understand something you've understood all your life, but in a new way.
– Doris Lessing

While certain things encountered are revelatory because of their former obscurity, much of what is learned is, indeed, what has been known and quietly understood for some time. The awareness of comprehension comes through the exploration, observation, conversation that wakes the forgotten familiarity from complacent slumber. Upon returning to our latent comprehension, a new understanding takes shape, a different perception is formed – something has been learned.

To me, graduate study exemplifies such a happening. Certainly, as I make this new beginning, I have learned new words, new techniques, new roles. Much of what I have come to know and understand, however, is a reformulation of lessons learned and explorations made over the years. Education is indeed about relationships, with the students and the material. Research is indeed about listening, to one's participants and to one's self. Writing is indeed about struggle, with the concepts as well as the prose.

Having discovered these things anew, I must reconcile what I knew with what I know, as well as what I have yet to know. Just as graduate school is both a beginning and an end, so too is this dissertation. And that is as it should be.

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From the researcher's weblog: August 2004

Interestingly enough, I don't really know what to say to start off this blog. Something profound... something witty...at least something mildly entertaining or even slightly intellectual. So, one might ask, why did I even start this endeavor if I had nothing to say? Well, some might point out that having nothing to say has rarely stopped people from talking in the past, so why should I be any different? Truthfully, however, I am engaged upon an experiment. I am a graduate student, designing a research project, planning to study students using blogs, and it seemed rather poor taste to involve others in said research project without actually blogging myself. Only fair, after all, to share the experience with those willing to participate in my study. Perhaps, too, there's still a small part of me that would like to write again. The journal sits idle for months at a time now, collecting dust and provoking feelings of guilt. I used to write; I have piles of journals to prove it - bound in leather, covered in flowers, quoting Shakespeare, pressing leaves, spilling clippings from emails. One day - what, five, six years ago? - I stopped writing altogether and I just haven't managed to reinstate the old habit. Who knows, perhaps there's hope for me yet.

CHAPTER I:
INTRODUCTION

"Teaching is a big part of my life but everything in my life also affects my teaching and my thinking about teaching." ~Kate

In the summer of 2004, I taught one of two introductory graduate level education courses for pre-service teachers in a Master of Arts in Teaching program at a large southeastern university. Over the course of that summer semester, twenty-six pre-service teachers and I met every morning to explore topics considered essential for their development as secondary classroom teachers: educational history and philosophy, assessment methods, classroom management, learning styles, lesson planning. They eagerly participated in class discussions, just as they submitted thoughtful papers on assigned topics. As the pre-service teachers gained familiarity with new educational concepts and different classroom applications, they lost none of their enthusiasm to question or consider issues relevant to teaching and learning.

I was intrigued by the individuals sitting in the desks, these pre-service teachers who would soon enter secondary classrooms to teach algebraic formulas or photosynthesis or rhyme schemes. They brought a diversity of viewpoints to my classroom and they were willing to present their perspectives, supported by the conviction of their beliefs. Some topics could pass by without argument; others would spark a discussion that would continue well past the end of class. Listening to these discussions, I could not help but notice how the pre-service teachers turned to their past experiences – as high school and college students, as substitute teachers, as camp counselors – to explain and support their positions. By drawing upon the knowledge

gained through their experiences, these evolving teachers explained their reasoning and justified their beliefs about education, in general, and teaching, in particular.

Developing a Study

This evidence of individual knowledge construction from past experiences – also known as practical theory (Handal & Lauvas, 1987) – was not confined to classroom discussions. In reading the numerous reflective papers assigned over that summer, I had written confirmation that the pre-service teachers relied on their various understandings of the past to make sense of the present material. The different knowledge and perspectives they brought to their preparation ensured that, in the words of Calderhead (1992), these pre-service teachers would "inevitably learn in diverse ways and take different meanings from the experiences that [were] offered them" (p. 142). I saw the diversity of their meaning-making not as a stumbling block to their learning, however, but as an opportunity to engage and challenge their held beliefs. The purpose of reflection, after all, is not to insist on one specific answer but to encourage multiple understandings and "ways of responding to problem situations in teaching and learning" (Loughran, 1996, p. 14).

The difficulty of accessing those multiple perspectives created a personal challenge for me during the summer course. Although the majority of pre-service teachers were willing to share individual viewpoints with their peers, I realized a small number were not comfortable expressing themselves during class discussions. I also knew, from reading their written reflections, that some viewpoints shared with me were not expressed in class. Although some reluctance to share different perspectives was a factor, the limitations of the physical classroom also played a role in preventing full participation: the daily amount of time provided for the

course, the number of students sitting in the desks, the variety of topics covered in each session. I was well aware that reflective thinking and understanding is enhanced "by bringing more minds and multiple perspectives to bear on educational issues and by forcing individuals to bring to the surface and articulate to others their own ideas and reasoning processes" (LaBoskey, 1994, p. 14). I was less sure how to access the variety of beliefs and understandings possessed by these pre-service teachers. What other opportunities existed that would allow a community of pre-service teachers to learn from each other while gaining understanding about themselves?

Teacher educators before me had obviously grappled with this situation; as I read through the literature on reflection that summer, I found numerous suggestions to encourage pre-service teacher reflective practice. Some educators used weekly written journals (Bain, Ballantyne, Packer & Mills, 1999; Collier, 1999); some determined guidelines for written journal entries (Francis, 1995; Yost, Sentner & Forlenza-Bailey, 2000); some designed specific reflective assignments (LaBoskey, 1994). Electronic resources were also beginning to support reflective thinking, as teacher educators used e-mail (Germann, Young-Soo & Patton, 2001; Whipp, 2003) and electronic discussion boards (Bodzin & Park, 2002; McDuffie & Slavit, 2003) to support reflection with their pre-service teachers.

My attention was focused, however, on an emerging technology in teacher education: weblogs. Introduced to weblogs earlier that year by a "techie" friend, I was intrigued by the flexibility, accessibility and informality of weblogs used as on-line journals. Apparently, other teacher educators (see Bull, Bull & Kajder, 2004; Dodge & Molebash, 2004; Hernádnez-Ramos, 2004; Stiler & Philleo, 2003) also shared my curiosity concerning this relatively new electronic medium in teacher preparation. My growing interest in weblogs, added to my established interest in teacher education and reflective practice, coalesced by the end of the summer to suggest an appealing research opportunity.

The contemplation and questioning instigated by my interactions with the pre-service teachers, combined with my developed and developing educational interests, resulted in a qualitative research study guided by two research questions: (1) What happens when pre-service teachers are introduced to the unfamiliar technology of weblogs? and (2) How might pre-service teachers incorporate this new technology into their reflective practice? The areas of practical theory, pre-service teacher reflective practice and weblogs as a form of educational technology guided the development of the study. The theoretical framework of the study, supported through exploration and analysis of the data, developed from this content analysis and its articulation with the literature, a concept identified by Glaser and Strauss (1967) as grounded theory.

In the fall of 2004, nine pre-service teachers agreed to participate in this study of weblogs and reflective practice. The study assumed an eight-month commitment, consisting of individually kept weblogs, individual interviews and group interviews. When the study ended in the summer of 2005, I had collected 263 weblog entries from eight individual weblogs, as well as transcripts from two group interviews and 23 individual interviews.

Determining Participants

Who were the pre-service teachers who agreed to take part in this study? As participants, they are perhaps easily reduced to statistics: The participants ranged in age from mid to late 20s. Five were female, four male. Despite different ethnic backgrounds, the participants classified themselves as "white." (Zach, ostensibly an Asian-American, did not appear to identify as such; in class discussions of culture and race, he referred to himself only as "Southern.") I do not mean to dismiss such identity-forming factors as age, gender and race.

While these characteristics certainly influence any participants in any study, less easily defined characteristics do as well. Kate, for instance, was from a rural part of North Carolina, the first in her family to pursue a graduate degree. Davis was a former computer programmer, Nicole a former biology laboratory assistant. Eric was married; Colin was engaged; Lauren was engaged by the end of the program. Abby had graduated from the local high school in which she would later take her first teaching position. Shannon loved sports; Zach loved a local restaurant's spaghetti.

Attempting to categorize these pre-service teachers as faceless participants runs the risk of reducing them to stereotypical, cardboard figures that provided dispassionate data, rather than living, breathing individuals who shared personal information. Doing so also disguises the very real people I interacted with before and during the study. These pre-service teachers possessed a variety of personalities: some humorous, some quiet, some restless, some outspoken, some – as in all groups – less likable than others. By the end of the study, I valued these pre-service teachers not for the information they provided (although I was exceptionally grateful for it) but for the very people they were. In point of fact, I considered these pre-service teachers more friends than participants, and I valued their involvement more because of the relationships established during the study.

Qualitative researchers have long warned against developing friendships with those participating in their research, noting the bias and loss of objectivity of the researcher in "going native." Glesne (1999), however, acknowledges that friendships naturally develop in the process of research. While the researcher must stay attuned to negative consequences of relationships with participants, "friendship may assist you and research participants to develop new understandings in a negotiated fashion" (p. 103). This is how I came to view my relationship with the nine pre-service teachers: a natural outgrowth of interactions that assisted my

understanding of the research at hand. Our evolving relationship surely came with some

restraint natural between a former instructor and her students; although we progressed to first

names and shared stories, we remained aware of the distance between us. To deny an amiable

relationship between research and participants, however, would be both wrong and misleading.

Introducing the Pre-Service Teachers

I believe an introduction to these nine individuals is best done in their own words. On

the first day of that summer class, my students were asked to complete a freewrite. They were

given five minutes to write, without regard for grammar or structure, on the question, "Why?"

Why were they in this classroom? Why had they entered the program? Why did they wish to

become teachers? On the last day of class, the students were again asked to complete the

"Why?" freewrite. This time, they were given ten minutes to put their thoughts on paper.

I provide these freewrites, at times lengthy passages, for the insight they provide into the

individual behind the data in this study. While quantifiable elements, such as gender, intrinsically

influence personal understandings and beliefs, more abstract elements, such as the view of

teaching formed through personal experience, are also at play. By applying their practical theory

to their personal comprehension during teacher preparation, these pre-service teachers revealed

a partial glimpse of their underlying understand of teaching and learning.

Abby (social studies)
- *June 2004:* I am here today and for the next year because I strongly believe that I
  can make a difference in the lives and educational foundation of the future
  children. I will work hard to learn new strategies, ideas, and techniques to
  accomplish my goal…Children today need strong educators to guide them and
  teach them the fundamentals of disciplinary subject. With these fundamentals,
  children can then begin to achieve their own goals – whatever they may be.

- *July 2004:* I am here…because I want to help fill the void of teacher shortages. I
  want a chance to help students learn and explore the world around them. I think

that I can make a difference in young people's lives, and I am confident that my students will be excited about learning and discovering the world's past after my class ends. As a critical pedagogue, I will have students dig deeper in our material, ask questions, and ultimately challenge why and how societal issues remain to plague us. In doing so, I will work to resist the structured and prevailing system, which works to reinforce stereotypes, self-handicapping, and maintaining the status quo. I will be aware and conscious of my formal and hidden agendas, as I will strive to make learning and success possible for each student in whatever capacity the individual student aims for.

Colin (social studies)
- *June 2004*: I am here to learn how to teach. I know that I want to be a teacher, but I do not have any clue as to how a lesson plan should be structured, the dos and don'ts in the classroom, and many other general things that I am sure I need to know before I go into the classroom. I considered doing lateral entry, but ultimately chose to attend graduate school, because I know that I am not prepared to have my own class.

- *July 2004:* I am here because I want to learn how to be a good teacher. I want to enter the classroom with at least some idea of what I will be facing. To become a good teacher, I think that it is important to continually question what it means to be a good teacher. It is vital that I explore the different philosophies and issues that are a part of teaching. This will help me find my own teaching style, and it will help me figure out what I want out of teaching. I think that my most important goal as a teacher is to motivate students, and to accomplish this, I need to explore how students view school and what approaches other teachers take toward motivating students. I also think that it is important to explore what happens to students who do not find any source of motivation. This will help keep me motivated, because I will understand what is at stake and what lies ahead for students who are not reached.

Kate (English as a Second Language)
- *June 2004:* I am here because I love people. All kinds of people have always appealed to me and I become incredibly excited when I am around large, diverse groups. I majored in Spanish and anthropology as an undergrad so that I would be able to learn more about different cultures and languages. I also have a passion for language, reading, writing, and speaking. I am here because I believe that with all my skills, interests and talents combined, I will be able to become an interested, engaged, passionate teacher who understands my students' backgrounds and cultures and who uses that cultural knowledge to create effective methods of learning for my students.

- *July 2004:* I am here because teaching is a lot more difficult and more complex than most people realize…I am here to learn the theories of education and to learn how to turn theory into practice in order to create social change in my classroom and my community at large. I am here in teaching because I know and feel now more than ever that I have chosen the right path – because I have many skills and qualities that will benefit me and my students; I have the patience to

work with students who come from different schooling experiences, and I have the flexibility and creativity necessary for working with students from diverse cultures and countries. The more I learn about the field of education and its importance in the lives of every single citizen, the more I realize that I have chosen a position and a vocation where I can truly make a difference in the world. I entered the teaching program because I desired to create short-term change in society, to affect the lives of individuals in a positive and impactful manner. Now I know just how possible that will be for me as a teacher, because even the slightest words of encouragement can make a huge difference in a child's life.

Eric (science)
- *June 2004*: Why not? Sorry, I had to put that. Anyway, I'm here because I basically had a good experience in college as an undergrad TA [teaching assistant]. I TAed a Biochem course (my major) and thoroughly enjoyed it. I'm also here because I've tried corporate America (didn't like), tried to do a Ph.D. in Biochem (didn't get in) and I'm now working in a lab…(which is ok). So, since I had such a good experience as a TA I fancy myself good at teaching. But I also know that I have a lot to learn about it because I wasn't an EDUC undergrad.

- *July 2004*: I still stand by my original explanation of being here because I experienced success as a TA during college. I also was bored with my corporate job and the academic research was too focused and impersonal. However, I have also come to some realizations that teaching is more than just standing in front of 30 students and telling them about Biology. The ramifications of the interactions that I will have (want to have) with the students will positively or negatively (hopefully not too much) affect them the rest of their lives. They will (hopefully) come to some realization as to who they are, and what role they will play in society after my class. Whether it be in the science field or not, I want them to look back on their high school classes and say that I in some way inspired them, encouraged them to do more with their lives. Furthermore, I now have an explanation as to what I'm doing with my life…Now when people ask me what I'm doing I can say that I am shaping the future. I know it sounds corny and cliché but I really am. I guess in some way I feel important in the role that I will be playing in society and that's what we all want isn't it?

Davis (math)
- *June 2004:* It's 9:45 am on Thursday June 17, and I am sitting in [room] 311 since this class is on my schedule. I am in the MAT program to learn to teach. Why? For all the noble reasons that people say, that they want to change kids lives, impart their worldly knowledge on the future businesspeople, scientists, writers, mathematicians. But really, I am here because I needed a new career. Cubicle life in the corporate world did not suit me. While the money was always good, the job satisfaction was terrible. I know many teachers, and have heard a lot of the "horror" stories. However, the one thing that I always came back to is that at least you get the chance to have a positive influence on someone.

- *July 2004:* I need a career I can feel good about. Software engineering sucks! I hated every second of it, except the paycheck…So – why teaching? Because it's

an opportunity to make a difference in a child's life, or hopefully many children or young adults. But I take that responsibility seriously, and did not want to jump into it cold. I thought this MAT program gave me the chance to learn about the profession, hear others viewpoints and to student teach under the guidance of an experienced teacher. I hated in my previous field when people would just jump into it with no prior education or training with the mindset that anybody can do it…I think most of all though I just want to enjoy what I'm doing everyday. I hope teaching will be that profession – at least there are no cubicles.

Shannon (math)
- *June 2004:* The first class I ever did all my reading for was spring senior year and an education class. In fact, it was also my first A grade. I find that my passion lies in education. When I debate with friends, it's over public schooling. I feel personally responsible for changing the system to one which engages the students rather than pushing them away. I hope for a system of equality, where everyone has the chance to succeed. I know that I made it through high school with A's and B's without learning very much. I wish I knew earlier that school was about finding your passion. I hope to start on a small scale influencing one student at a time, and then moving on to effect school systems and hopefully all public education.

- *July 2004:* I want to be a teacher because I feel like I am open-minded and have the ability to make a diverse group of children all feel special. I can respect a culture different than mine. Even if I completely disagree with an idea, I tend to be able to see the good about it. I will create a classroom community where respect is the only rule. Hopefully the students will feed off my respect for them and learn to respect each other. I enjoy working with children. I see the potential kids have when you give them responsibility. I trust children to make good decisions when they are respected and high expectations are laid out for them. I feel like I can expect a lot out of my students and see the best in all of them. I also think it's important for there to be "cool" math teachers. A lot of times I think kids get turned off from math because their teachers are such dorks.

Nicole (science)
- *June 2004:* I am here in the MAT program for a number of reasons. I love science – the discovery, the complexity, the wonder, the diversity, and the mystery of science. That love for science began early in life but was confirmed through a high school AP Biology class; my positive experience was largely due to my enthusiastic teacher of this class. I knew after high school that my career would involve science. After 5+ years in a research lab, I still love science, but I learned that I want to <u>teach</u> science, not necessarily discover science.

- *July 2004:* The reasons I am here are many and similar to the reasons I gave at the beginning of the summer. I still love science, I still want to leave my current job, and I still want to impart my excitement about science to students…I am here because I think this program will better prepare me to be a teacher. I understand that nothing can really make me a teacher, but I already feel more aware and informed about teaching/issues that I would be had I pursued lateral entry. I am

interested to see how the theories, ideas, and concepts we studied will manifest themselves as I observe in the school system and student teach in the spring. I am here to continue to gain info on how students learn, ways to reach different learners, and how to implement the ideas we have discussed…I realize I have much more to learn, and will never know it all, but I think I'll be better prepared after this year, and at least have resources I need to find out more.

Lauren (math)
- *June 2004:* I have always loved math. I enjoy the challenge of trying to solve difficult problems…I was really turned onto math further my freshman year of high school by my excellent geometry teacher. I was blessed to have her for Algebra 2 as well. She quickly became my role model and I have been interested in teaching ever since…

- *July 2004:* I am in the MAT program to become exposed to some of the many issues that I will be dealing with as a teacher. I also want the skills and background necessary to become an effective teacher. I know that this is a process and that I must adjust somewhat to the students…I want to be acceptable for the students because they deserve good teachers…I still don't feel capable of teaching effectively after the two courses this summer, but it has helped me become exposed to many issues and introduced to many concepts teachers will need to be responsible for. My reasoning for being here remains that I want to be a good teacher and I feel that the more education I have on education then the better. I am also excited that I will be able to observe and learn from other teachers before I am thrown into a classroom. I want guidance and advice from others teachers while student teaching, but I also don't want to be just like all the other math teachers.

Zach (science)
- *June 2004:* Over the past few years, studying to be a dentist, my many experiences have revealed to me a true passion of mine: working with youth. From coaching several swim teams, tutoring, working with a pediatric dentist, to spending a summer as a counselor…I love the opportunity to serve as a role model to the youngins. Having discovered this interest late into my Biology major, the MAT seemed the best option available to pursue my teaching/coaching interests.

- *July 2004:* To gain some amount of introductory knowledge to the classroom, schools in general. Sort of laying the foundation for what might be expected in my first years(s) of teaching. To gain insight into teaching and teaching practices, both of which I have little to none prior exposure to. To do all of this in an academic environment (one best suited to aid my growth in the above-mentioned). Additionally, to be among fellow aspiring teachers to (1) gain their perspectives as well, (2) meet people [who] share <u>at least</u> one thing in common with me, and (3) build within that community relationships from which we can all learn from each other and help in each others' growth as a future teacher…I am here because I am certain that my student teaching experiences will be an invaluable part of my development as a young teacher.

A variety of reasons brought these pre-service teachers to teaching: their love of a certain subject matter, the promise of interaction with like-minded peers, a belief in social justice, an interest in working with children. Within these unstructured responses, Abby, Colin, Davis, Eric, Kate, Lauren, Nicole, Shannon and Zach draw upon their practical theory to explain why they value a future as a teacher; they also demonstrate their ability to informally reflect on a deliberately thought-provoking question: Why?

Introducing the Researcher

Glesne (1999) points out that all research is in some ways autobiographical. We reveal aspects of our selves when we choose a certain research method or select a particular topic. Research incorporates the researcher as much as the researched, for the decisions made and the words chosen are the result of all individuals involved. I cannot separate myself from my research nor would I wish to; I am inextricably bound to what I study because it intrigues and confounds me. What I choose to study reflects my interests; my interests reflect me. So, yes, this research is indeed somewhat autobiographical.

I was raised on a farm in rural North Carolina, a serious little girl who was much happier reading a book than climbing a tree. My family would most likely fall into the category of the working class – my father a service technician, my mother a stay-at-home mom; we didn't have as much as others growing up but neither did we go without. I wore my share of hand-me-downs, and I quietly envied my friends who didn't, but I also had a way of ignoring what I couldn't change.

I lived in a world of books; real life was an intrusion that I was happy to avoid, much to my mother's chagrin when she needed help in the garden. My parents, however, never dismissed my desire to read. My mother carted me to the library every week during summer

vacations, where I would pick out armloads of books to carry to the counter. As soon as I could write my name and see over the counter (with the help of a footstool), I was allowed to have a library card of my own – I believe I was five at the time. My father never turned down my requests for money for the school book order. He would look at me over his newspaper, slightly bewildered at his little girl's insistence that she simply had to have *this* book when she had so many already, then reach into his wallet for the dollar bills I so desperately wanted. Even my older sister was complicit in my obsession; surely she noticed the gaps in her bookcase when I filched one of her novels but she never demanded they be returned.

School was fun for me. I loved being in the classroom; my teachers were some of my favorite people; homework was much better than household chores. Perhaps not surprisingly, I was good at school; without excessive effort on my part, I graduated from high school with honors. I packed my bags for college, choosing Duke University for my future alma mater, much to the surprise of my various state university-bound friends. College required much more effort, but I loved it – the people, the classes, the opportunities, the challenge. When I graduated, I found myself slightly bewildered at the expectation to leave such things behind.

After some time pondering my future career, I returned to an idea that had been with me since I was a young girl: I would be a teacher. An English teacher, of course – what better fit could there be for me? So, amidst some consternation – "You went to Duke and you're going to be a *teacher*?" – I returned to Duke for their MAT program. A year later, I was a certified secondary English teacher.

Teaching was a good fit for me but not a perfect one. I often butted heads with the administration: Why was this student's punishment for plagiarism a transfer out of my classroom? I found myself asking questions other teachers didn't appreciate: Why exactly are we teaching *The Fairie Queen* when no one actually likes it? I spent too much time frustrated about

situations I couldn't control: Why can't my "regular" juniors read *The Great Gatsby*? Even the students bewildered me: Why do you care so little about school when I care so much? Still, I enjoyed being in the classroom, working with my students, making our way through literature, spending time with other teachers.

When I had the opportunity to teach in a university education program, however, I jumped at it – and there I found something that came close to perfect. I was creating courses from scratch; I was engaging my students in discussions of "why's" rather than "what's"; I was talking with students who were interested in becoming teachers. Now, I had the time and the space to wrestle with the questions that had floated at the back of my mind while teaching. While working at the university that year, I realized my next step was graduate school; there I could explore my questions and attempt to do something with the answers. So, instead of going back to the high school classroom, I went to the university classroom as a doctoral student in UNC-Chapel Hill's Education program.

Graduate study challenged me in ways I hadn't expected but it gave me something I craved: the opportunity to delve into possible answers for my questions. I read, I talked; I read, I wrote; I read and then I read some more. My interests coalesced into the broad areas of teacher education, educational technology, and secondary English education. Within those general terms lie a number of questions that intrigue me, some to be explored now, some to wait until a future time. Weaving together my past experiences and questions with my present abilities and passions, I have generated research interests that draw upon my own practical theory as I explore, study and challenge.

This Study

The qualitative research study I present here rests on two complementary points: the reflective thought generated by pre-service teachers is of value to teacher educators, and educational technology provides alternative ways to access reflective thought. I believe that what pre-service teachers think, believe and accept – their practical theory – is important to teacher educators, as the viewpoints and understandings they maintain during their preparation will guide their future actions and beliefs as teachers.

Reflection, viewed as a meaning-making process supported by both thought and action, provides a point of entry into pre-service teachers' viewpoints and understandings. The benefits of reflective thinking and the acknowledged range of implementations encourage teacher educators to experiment with the form, process and method of reflection. The weblogs presented here are my experiment, a new form in which to encounter reflection. After all, without experimentation, how will teacher educators explore the flexibility of reflection? Without that exploration, how will pre-service teachers come to see reflection as a beneficial process – indeed, a habit of mind – when they leave the university classroom for classrooms of their own?

EXCERPT 2

From the researcher's weblog: September 2004

I love it when I actually come across something in the literature that supports my own thoughts - although having someone else say it first does severely reduce my chance to make an original contribution to the field but one must sometimes win a small battle to continue engaging in the larger war. Yost, Sentner and Forlenza-Bailey note that pre-service teachers must acquire a personally meaningful knowledge base to connect to their experiences in order to produce critical reflection. That's my point! Unless pre-service teachers feel that reflection has personal worth, that it's more than a 3 page essay from yet another education professor, they will never recognize the process as a meaningful contribution to their own teaching. Now, I may not be able to claim that as an outcome of my upcoming research, but I can at least do a little dance that my emerging ideas aren't complete fantasy in the realm of teacher education.

CHAPTER II:
REVIEW OF THE LITERATURE

"I know I pose a lot of questions, I don't pose a lot of solutions, but I think just through thinking of questions to post to myself…I'm seeing what's important in my life." ~Eric

Pre-service teachers do not develop in a vacuum. Their conceptions of teaching and learning are constantly influenced by their experiences, their interactions and their conversations. As teacher educators, we are well aware that pre-service teachers bring a personal knowledge to teacher preparation based on their previously formed understandings. Whether we agree with their particular interpretations, pre-service teachers know and understand many things about teaching and learning, even unconsciously, based on their former experiences.

Reflective practice – a conscious effort to consider one's thoughts and actions – pulls pre-service teachers' previously formed beliefs into the forefront. Through reflection, pre-service teachers are challenged to make sense of their prior understanding, create new knowledge and build upon their continuously developing foundation. According reflection the flexibility supported by its educational history prompts teacher educators to explore new approaches to and methods for reflective thinking.

Educational technology, a growing presence in teacher education, provides a variety of avenues to support reflective practice. As pre-service teachers learn to use educational technology for pedagogical and professional purposes, they can also explore the possibilities such technology provides in support of reflection. Weblogs, a particular technology now emerging in teacher education, present one such possibility.

Pre-Service Teachers and Practical Theory

Pre-service teachers bring a wide range of experiences, beliefs, assumptions, values and knowledge to the university classroom that informs their understandings and influences their actions as developing teachers (Bramald, Hardman & Leat, 1995; Calderhead & Gates, 1993; Danielewicz, 2001; Feiman-Nemser, 2001; LaBoskey, 1993, 1994; Lortie, 2002; Tom, 1997; Yost, Sentner, Forlenza-Bailey, 2000; Zeichner & Liston, 1996). Many of their "various entrenched ideas and beliefs about teaching, learning and the curriculum" (Calderhead & Gates, 1993, p. 3) are solidified during their previous years of schooling, in what Lortie (2002) termed "the apprenticeship of observation." Pre-service teachers' beliefs about education, often gained during this apprenticeship, "form the basis for their intentions and a rationale for their actions" (Yost, Sentner, Forlenza-Bailey, 2000, p. 42) in and out of the classroom.

After years of experiential observation in the classroom – where, as students, they formed conclusions about the actions and motivations of their teachers – they have created, perhaps unconsciously, a personal knowledge of teaching and learning that often conflicts with the knowledge and experiences offered in their university preparation. As they begin their preparation, then, pre-service teachers "should be made aware of this relationship and be given the opportunity to identify and examine their beliefs and practice" (Bramald, Hardman & Leat, 1995, p. 23) for their personal growth and change.

Drawing on that observational understanding, beginning teachers easily revert to what they have experienced, teaching as they too have been taught (Cuban, 1993). Despite university efforts to instill different ideas about teaching, pre-service teachers regularly depend on traditional notions of teaching and learning during the student teaching experience, reinforced by the traditional teaching environment in which most operate (Yost, Sentner, Forlenza-Bailey,

2000). Pre-service teachers also struggle to see beyond their personal experiences as students; for many beginning teachers, race, class, gender, religion, and/or sexuality are seen as divisive issues in teaching and learning for the first time (Delpit, 1996; hooks, 2000; Maher & Tetreault, 1997; Smith, Skarbek, & Hurst, 2005). The realization that teachers must respond to different learning styles and use various instructional strategies, for example, makes pre-service teachers aware that their future students' experiences in school may well differ from their own. Likewise, when students' abilities, aptitudes or acts differ from the pre-service teacher's expectations – as they will in our increasingly multicultural classrooms – pre-service teachers must consciously learn to appreciate and understand these differences (Delpit, 1996).

During the summer course, the pre-service teachers were frequently confronted with situations that required them to integrate their past understandings with their emerging comprehension of the new information presented in class. During a class discussion on responding to student diversity in the classroom, for example, Davis expressed doubts that males and females had different experiences in mathematics classrooms. As a student, he had seen no disparity between genders in his mathematics classrooms; as a math teacher, he would treat each of his students the same, regardless of their gender. After reading an article about the role of teacher expectations in male and female achievement in mathematics classrooms, however, Davis expressed new insight, accepting that students can have different experiences in the same classroom. In an email that summer, he wrote, "I would hate to think that I [as a teacher] could adversely affect girls (or boys) ability to learn math…we can't necessarily judge an individual on the basis of a particular classification of race, gender, religion, etc. Hopefully my actions will reflect that."

I was captured by the personal understanding each pre-service teacher brought to the classroom, expressed aloud in group work or written in individual papers. I was also drawn to

what I did not hear: a point made in a paper that was never raised in class; a quizzical facial expression that was never explained aloud; a question asked of me privately that was never asked of peers publicly. Over and over, I was reminded of the depth of individuality these pre-service teachers claimed, that much of what they thought and questioned was not shared in the loosely structured atmosphere of my classroom.

That point was illustrated quite clearly in a summer-long email exchange with Lauren, one of the pre-service teachers in the class. Lauren struggled to integrate what she learned at the university with what she already understood from her admittedly conservative experiences in education. Although comfortable enough to share some of her thoughts with me, she rarely expressed those same thoughts in class; her voice was reserved for the more informal moments of personal conversation. For example, teaching to student difference was one issue Lauren contemplated throughout the summer. In one email, she wrote, "I think that it is extremely difficult to reach all students…That will probably be difficult [for] me because I do not feel as though I know a lot about all sorts of people." Later in the summer, Lauren expressed difficulty in reconciling the knowledge she brought to her teacher preparation with the knowledge she gained through her preparation:

> I am really struggling…because so many have different beliefs than I. Is that cause I am from a small southern town and haven't been exposed to so many different beliefs? Or is [it] because I am a Christian and want the best life in eternity for everyone? I think that just being [here] is exposing me to so many different ideas…Don't worry, I am still considering and thinking how I need to teach and build relationships with students who have such different beliefs than me…I guess that I have more questions now than I have had before. I am unsure about so much.

Pre-service teachers like Davis and Lauren have not developed independent of outside influences. Their past and present conceptions of teaching and learning are constantly altered and influenced by their experiences, their interactions and their beliefs. Pre-service teachers create an understanding of what they see and experience, making meaning of both the familiar

and the new, to guide their beliefs and actions. Through this individual process of knowledge

construction, they generate what Handal and Lauvas (1987) term "practical theory."

In the context of teacher preparation, practical theory refers to a

> private, integrated but ever-changing system of knowledge, experience and
> values which is relevant to teaching practice at any particular time…a personal
> construct which is continuously established in the individual through a series of
> diverse events (such as practical experience, reading, listening, looking at other
> people's practice) which are mixed together or integrated with the changing
> perspective provided by the individual's values and ideals. (Handal & Lauvas,
> 1987, p. 9)

One's personal practical theory is not an objective construct; rather, it is the "basis or

background against which action must be seen" (Handal & Lauvas, 1987, p. 9) and understood

as enacted by the individual. Through personal experience, transmitted knowledge and

individual values, pre-service teachers create a practical theory that guides them in their daily

actions and understandings of teaching and learning, drawing from their "moral, affective, and

aesthetic way[s] of knowing" (Connelly & Clandinin, 1988, p. 59). Their practical theory need

not even be consistent, as "knowledge [is] based on quite different sources, and with mutually

inconsistent assumptions underlying it, may exist side by side and influence different parts

of…practice" (Handal & Lauvas, 1987, p. 17). Practical theory, then, is flexible, continuously

changing to accommodate the pre-service teacher's emerging understanding of teaching and

learning.

As Lortie (2002) noted, the constant observation of and interaction with teaching and

learning creates an understanding of education that may or may not align with that presented in

teacher preparation programs. The meaning that pre-service teachers derive from their

experiences forms their personal knowledge of the world; how they enact that meaning forms

their personal practical knowledge (Connelly & Clandinin, 1988). Pre-service teachers are

already "knowledgeable and knowing persons" (p. 25) when they enter teacher preparation, able

to construct personal understanding from their practical theory. Such individually crafted knowledge should not be discounted.

Rather, teacher educators should value the life experiences, personal beliefs and emotional responses that pre-service teachers bring to their university preparation (Francis, 1995; Mills & Satterthwait, 2000; van Halen-Faber, 1997). Once in the university setting, pre-service teachers will continue to construct individual knowledge, crafting personal and practical understandings from the university-based knowledge and the experiences of their student teaching. The diversity of personal background, belief, knowledge and perspective ensures that pre-service teachers "will inevitably learn in diverse ways and take different meanings from the experiences that are offered them" (Calderhead, 1992, p. 142). Teacher educators, then, have the opportunity to engage pre-service teachers' practical theory with diverse and challenging experiences.

Recognizing that practical theory is continuously formed, generated from the past and the present to guide the future, teacher education programs must work to engage that practical theory:

> The experiences we have before we enter teacher education programs, those encountered within programs, and our subsequent work experiences as teachers provide a background of episodes and events that inform who we are and how we think, feel, and plan as teachers. The degree to which we think about those experiences and the degree to which those experiences frame further events and enable us to continue to grow as thoughtful teachers constitutes, in part, our reflective understanding. (Zeichner & Liston, 1996, p. 27)

Teacher education programs are challenged, then, to make transparent the link between prior knowledge and current belief, to provide opportunities for growth and change in the personal practical theory of pre-service teachers (Bramald, Hardman & Leat, 1995). Reflective practice in teacher education provides one avenue to meet such a challenge.

Pre-service Teachers and Reflection

Reflection, publicly supported in education, is yet a private practice of thinking and acting. As a secondary English teacher, I jotted notes in my lesson planner and wrote entries in my personal journal, questioning my teaching and my students' learning: Why does group work always fail with 2^(nd) period? How can I make *Macbeth* more interesting to the seniors? What am I going to do if Roy falls asleep in class again? As a teacher educator in the summer of 2004, I continued to ask questions, this time focusing on pre-service teachers instead of secondary adolescents: What teaching concerns do these pre-service teachers have in the back of their minds? How can I tap into the private thoughts these pre-service teachers hold about teaching and learning? Will these pre-service teachers continue to reflect on their teaching after they leave the university?

Defining Reflection

Reflective practice has a complicated and contested history. With roots in the Aristotelian age (Birmingham, 2004), reflection has gone through various transmutations as implemented in education. When asked to define reflection in a group interview, for example, those pre-service teachers in the study provided no one standard definition: "thinking about yourself;" "thinking about why you do things;" "looking back at what you've done [so] that you can do things differently;" "constantly thinking why am I here, what am I doing, what can I do better."

Fendler (2003), addressing the difficulty of determining a static definition of reflection, notes four major influences on reflection as it is construed today in teacher education: Cartesian rationality, Dewey's scientific method, Schön's practice-based common knowledge and cultural feminism's rejection of masculine influences. These at times contradictory influences, in

Fendler's (2003) view, have the ability to produce contradictory consequences. One drawback, for example, is the establishment of hierarchical orders of reflection as presented in educational research and practice. By establishing a pre-determined order for reflective thought, certain ways of perceiving and talking about teaching are censored. In essence, pre-service teachers are taught there is only one right way to reflect. Maintaining a right or wrong way, in a fairly individual and personal process, proscribes different ways of approaching reflection.

Acceptance from different perspectives, however, has allowed for the durability of reflection through time and context. A more positive approach to the diversity of perspectives suggests that reflective practice is "so natural and so acceptable precisely because it is supported by multiple perspectives with criteria for reasonableness that are otherwise incommensurable" (Fendler, 2003, p. 17). Considering the benefits of reflection, multiple influences may actually support multiple avenues for reflective thinking.

Reflective practice in teacher education prepares pre-service teachers to identify, analyze and deal with complex issues that arise in classroom teaching (Spalding & Wilson, 2002), while compelling them to construct the knowledge needed to guide their decisions (Francis, 1995). Such knowledge, in turn, generates questions and actions that lead to change in pre-service teachers' educational actions, response to criticism, and social and cultural beliefs (Liston & Zeichner, 1990). By developing and refining knowledge through reflection – in essence, by (re)formulating their practical theory – pre-service teachers gain awareness of personal beliefs and actions, recognize the many influences on student learning, link theory and practice, and learn to question accepted knowledge (e.g., Bain, Ballantyne, Packer & Mills, 1999; Collier, 1999; Danielewicz, 2001; LaBoskey, 1994; Liston & Zeichner, 1990; Loughran, 2002; McIntyre, 1993; Ward & McCotter, 2004).

How pre-service teachers engage in reflective practice to accrue its benefits differs. Collier (1999) used reflective journals with her pre-service teachers to "clarify and extend individual thoughts and concerns [and] encourage increasing awareness and self-assessment of evolving attitudes and beliefs over an extended period of time" (p. 174, 175). To connect the theory and practice of teaching and learning, Loughran (2002) encouraged the analysis of personal experiences while McIntyre (1993) had pre-service teachers consider the actions of others and concepts from readings. Liston and Zeichner (1990) used reflection to turn pre-service teachers inward – examining individual contexts – and outward – examining social contexts. In this approach, pre-service teachers used reflection to understand their actions, their implicit social and cultural beliefs, and the schools in which they teach.

Zeichner and Liston (1996) present a reflective teacher as one who

examines, frames, and attempts to solve the dilemmas of classroom practice;
is aware of and questions the assumptions and values he or she brings to teaching;
is attentive to the institutional and cultural contexts in which he or she teaches;
takes part in curriculum development and is involved in school change efforts; and
takes responsibility for his or her own professional development. (p. 6)

As Connelly and Clandinin (1988) assert, teachers generate personal practical knowledge from experiences with teaching and learning. Reflection, then, twines with such knowledge to produce a guiding practical theory. Through reflection, a teacher aims to change the thinking about teaching as well as the practice of teaching (Russell, 1993).

John Dewey and Donald Schön represent two of the major schools of thought for reflective practice in teacher education. Dewey's exploration of reflective practice, in *How We Think* (1910/1997) and *How We Think: A Restatement of the Relation of Reflective Thinking to the Educative Process* (1933/1960), presented reflection as a disciplined way of thinking, defined as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (1933/1960,

p. 9). In clarifying this definition, Rodgers (2002) stresses Dewey's emphasis on "reflection [as] a complex, rigorous, intellectual, and emotional enterprise that takes time to do well" (p. 844). Schön, offering his interpretation of reflection in *The Reflective Practitioner: How Professionals Think in Action* (1983) and *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions* (1987), describes reflection as a rational and moral process whereby action is taken and decisions are made:

> The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings which have been implicit in his behaviour. He carries out an experiment which serves to generate both a new understanding of the phenomenon and a change in the situation. (1983, p. 68).

Like Dewey, Schön saw reflection as a practice requiring a conscious effort to look back at past action – what Schön termed reflection-on-action – but Schön also validated reflection-in-action, the practice of "conscious thinking and modification while on the job…about preferable ways to act" (Hatton & Smith, 1995, p. 34).

In this way, reflection "stresses the substance that drives the thinking – the experiences, beliefs, sociopolitical values, and goals" (Sparks-Langer & Colton, 1991, p. 39). Pre-service teachers need opportunities, such as those offered through reflection, to examine the taken-for-granted beliefs that drive their thinking and action (Feiman-Nemser, 2001). As Spalding and Wilson (2002) clarify, "Reflective thinking begins with a state of doubt, hesitation, or perplexity and moves through the act of searching to find material that will resolve, clarify, or otherwise address the doubt" (p. 1394). Through such searching, pre-service teachers can construct new understandings "by drawing on their past and present personal and professional experiences in schools; theoretical knowledge base; self-image and efficacy; and their interactions with peers, mentors, supervisors, and children in schools" (Sparks-Langer & Colton, 1991, p. 41). Seen in

this light, reflection's importance is grounded in the meaning-making that results from sustained consideration, as prior conceptions are incorporated or transformed into new understandings, resulting in internal or external moves for the pre-service teacher (Francis, 1995; Hatton & Smith, 1995; LaBoskey, 1993; van Halen-Faber, 1997).

Structuring Reflection

These moves are frequently asserted through specific approaches to reflection. Teacher educators and researchers often rely on specific structures to configure and guide approaches to reflection. Dewey (1933/1960) considered reflective inquiry to follow the steps of description, analysis and action. Francis (1995) presents specific guidelines to follow during the reflective process: summarize; give new insights; ask questions that emerge from the topics or issues; and explain personal reactions. Yost, Sentner, & Forlenza-Bailey (2000) provide explicit questions to guide pre-service teachers during reflection: "(1) describe – What do I do? (2) inform – What does it mean? (3) confront – How did I come to be like this? (4) reconstruct – How might I do things differently?" (p. 44). By following a specific structure, pre-service teachers are consciously guided through their reflective engagement.

Reflective thinking is also categorized through predetermined levels of reflection that qualify pre-service teachers' reflective thought. "Lower" levels of reflection are grounded in description and "higher" levels express critical action or change (Collier, 1999; Hatton & Smith, 1995; McIntyre, 1993; Spalding & Wilson, 2002; Sparks-Langer, 1992; Ward & McCotter, 2004; Yost, Sentner, & Forlenza-Bailey, 2000). The language used to delineate the levels differs according to the researcher, yet the intent remains comparable in purpose. Yost, Sentner, and Forlenza-Bailey (2000), for example, note four levels of reflection: description, information, confrontation, and reconstruction. Ward and McCotter (2003) also define four levels of reflection – routine, technical, dialogic, and transformative – which are similar in purpose to the

hierarchy expressed by Yost, Sentner, and Forlenza-Bailey (2000), as well as Collier's (1999) and McIntyre's (1993) three-level hierarchy of technical, practical, and critical reflection. Schön (1983, 1987), however, subsumed different levels of reflection in his validation of reflection-in-action, where practitioners think on their feet and thereby incorporate all levels in one thought process.

The rigor found in reflective hierarchies is replicated in the delineation of content between the levels. Initial levels, such as descriptive or technical, are considered limited to little or cursory analysis; pre-service teachers concentrate on descriptions of experience or solutions to the practical matters of teaching, often without explicitly challenging their held beliefs (Hatton & Smith, 1995; McIntyre, 1993; Ward & McCotter, 2004). Secondary levels, such as critical or transformative, are defined as those that incorporate analysis and concern for the larger scope of the issues described; social, political, moral and ethical concerns are considered in developing comprehension, questioning prior understanding and determining action (Dinkelman, 2000; LaBoskey, 1993, 1994; Yost, Sentner, & Forlenza-Bailey, 2000).

Research on reflective practice shows that pre-service teachers are more likely to engage in "lower" levels of reflection – concentrating on the description of a situation or the practical solution to a classroom concern – than "higher" levels of reflection (Calderhead, 1992; Hatton & Smith, 1995; McIntrye, 1993; Whipp, 2003; Yost, Sentner, & Forlenza-Bailey, 2000). Approached in this manner, critical reflection is seen as the most desirable level of reflection, concentrating as it does on issues of equity and justice. However, seemingly lower levels of reflection are also important. Description and explication are an "essential aspect of initial student teacher development and a precursor to other kinds of reflection" (Hatton & Smith, 1995, p. 35). As evidenced by their enrollment in educational study, pre-service teachers are still growing intellectually (and emotionally) during their teacher preparation. Pre-service teachers

lack the experience and the broader world view that would contribute to a more critical approach to reflective thinking (McIntyre, 1993). Critical thought is not absent in the pre-service teacher mind but more commonly found in examinations of others' practice and reactions to newly presented theories and experiences. All reflection at the pre-service level, then, holds value as it contributes to the development of more habitual critical reflection in years to come (McIntyre, 1993; LaBoskey, 1993; Ward & McCotter, 2004).

The Role of Community in Reflective Practice

The opportunity to interact with others during reflection – to engage in one-on-one conversations, to exchange ideas in a classroom setting, to take part in an electronic discussion – provides support for reflective thinking, regardless of the structure required or the level attained. As Davis echoed in an email, "I discover new ideas through interacting with other people, getting and giving feedback." Dewey (1910/1997, 1933/1960) and Schön (1983, 1987) regarded an interactive community integral to the production of reflective thought. As Rodgers (2002) explains, Dewey recognized that "having to express oneself to others, so that others truly understand one's ideas, reveals both the strengths and the holes in one's thinking" (p. 856). Zeichner and Liston (1996) agree that "the challenge and support gained through social interaction is important in helping teachers clarify what they believe and in gaining the courage to pursue their beliefs" (p. 76).

Learning communities, where individuals benefit from the knowledge of the group as a whole, support the dialogue and growth found in such social interactions (Pringle, 2002; Riel & Fulton, 2001; Schön, 1983, 1987). In learning communities, groups of people share a common interest in a topic, "as well as a particular way of talking about the phenomena, tools, and sense-making approaches for building their collaborative knowledge with a set of common collective

tasks" (Riel & Fulton, 2001, p. 519). Pre-service teachers, already grouped into cohorts and organized by content matter, have the ability to form such meaningful learning communities.

The benefit of learning communities is predicated on the symbiotic relationship between collaboration and communication (Danielewicz, 2001; Johnston, Duvernoy, McGill, & Will 1996; Riel & Fulton, 2001). Collaborative environments emphasize the benefits of joint effort and social interaction, creating a space for pre-service teachers to produce new knowledge and critique accepted knowledge, conditions and theories (Danielewicz, 2001). Reflection is enhanced – and practical theory is fashioned – through such collaboration, when pre-service teachers confront challenges to their held beliefs, encounter different perspectives, receive affirmation and support during the learning process, and generate new understanding of their actions and beliefs (Bain, Ballantyne, Packer & Mills, 1999; Francis, 1995; Hatton & Smith, 1995; LaBoskey, 1994; Liston & Zeichner, 1990; Mewborn, 1999; Richert, 1992; Yost, Sentner, & Forlenza-Bailey, 2000). By learning within a community, pre-service teachers benefit from the knowledge and experience of others in less structured "open-ended, contingent, flexible, negotiable, conditional and responsive" environments (Danielewicz, 2001, p. 150). In return, "the opportunity to talk about their actions, their thinking, their beliefs, and their feelings is part of the process of learning to be a reflective teacher" for the pre-service teachers (Richert, 1992, p. 191). By interacting with others, pre-service teachers learn to articulate and support their own beliefs and understandings (LaBoskey, 1993). In addition, interacting within a learning community where individual practical theories are constantly challenged requires an emotional willingness on the part of the pre-service teachers to learn from others.

Accepting the Affective in Reflection

Pre-service teachers often value the emotional aspects – the affective dimensions – of teaching, such as caring, fairness, and the ability to laugh, when they enter teacher preparation

programs (Mills & Satterthwait, 2000). Pre-service teachers' personal definitions of reflection

frequently reflect this affective dimension of teaching. When asked to complete a free-write

about reflection at the beginning of the study, for example, several pre-service teachers noted the

practical aspects of reflection as well as the affective benefits:

> **Kate**: To reflect on your teaching is to keep a continual awareness of your
> methods and practices and to always keep in mind why you entered teaching in
> the first place. Reflection is a way to strive for continuous self-improvement and
> continuous change of the situation you're in…As a reflective teacher, you might
> think of ways to teach your students more effectively and discover that the true
> problem lies in your collaboration with your fellow teachers – so you spend a little
> extra time building relationships with those teachers.

> **Abby**: [Reflection is] questioning why/how/consequences; developing an
> understanding or explanation of events/behaviors; care about ourselves; care
> about others – indirectly.

> **Colin**: Reflection is a process…in which the reflector engages in self-examination
> in order to have a better understanding of why he or she thought, felt, or acted in
> a certain way. Reflection is a process that can create a feeling of guilt, doubt,
> pride, or possibly confusion.

> **Shannon**: As a teacher we don't have the liberty of being brainless. A teacher is
> responsible for the 30 students in his/her classroom. As a result they have to look
> back on their pedagogy to reflect on how they might have been received by the
> students…Reflection is looking back on what you taught and figuring out why you
> did it the way you did. We bring [our] biases into the classroom with us, but we
> have to make sure it doesn't show up.

During their preparation, however, pre-service teachers may come to view these beliefs

as naïve, moving away from the more emotional dimensions of teaching to the more managerial

dimensions (Goldstein & Freedman, 2003; Mills & Satterthwait, 2000). Pre-service teachers see

the immediate results of learning the managerial tasks of teaching, such as entering grades or

organizing group projects. While they may value affective aspects, the lack of an immediate

outcome, as well as the emotional investment of teaching (Liston & Garrison, 2004), prompts

pre-service teachers to concentrate on the aspects of teaching they can visibly maintain.

Although the managerial aspects are necessary for effective instruction, strict reliance on a more

technical view of teaching rejects the prior knowledge gained through the formulation of personal theories and negates the importance of emotion in teaching (Mills & Satterthwait, 2000). Through reflection, pre-service teachers have the opportunity to engage with affective components to make meaning, question understanding and generate practical theory.

The disequilibrium inherent in the meaning-making process of reflection – as the individual moves between understanding and confusion – is reflected in the (re)making of the individual's practical theory. As one creates meaning from new experiences and ideas, the perspective gained works with previous beliefs and experiences to fashion new understandings. Knowledge gained through such experience has the added benefit of encouraging the articulation of professional knowledge, a bridge between theory and practice (Loughran, 2002). Recognizing the many potential benefits for pre-service teachers, teacher educators are challenged to encourage pre-service teachers "to reflect on their practice in meaningful ways, to consider the effect their teaching has on student learning, and [to] develop habits that will stay with them" (Ward & McCotter, 2004, p. 244). To meet these challenges, teacher educators continue to explore various avenues for reflective practice.

Pre-Service Teachers and Educational Technology

The meaningful integration of technology in teacher education programs is an on-going challenge (Bell, 2001; Cooper & Bull, 1997; Willis & Raine, 2001). Teacher educators face the issues of start-up costs, full curriculums and constructive integration of technology into standard-saturated courses. When applied in teacher education, technology is more likely directed toward managerial support than innovative classroom applications.

The broad range of pre-service teacher experiences with technology is also a factor in technological application. While familiarity with common technology may be expected – such as email, word processing, PowerPoint, web-based searches and electronic discussion tools – such competence cannot be assumed from all pre-service teachers. The range of pre-service teachers' technical ability in this study, for example, illustrates the point well: Davis, as a former computer programmer, was technologically expert; Abby qualified as technologically proficient, participating in on-line communities and extensive web browsing; Nicole was technologically comfortable, capable of the basic technical tasks and willing to learn new skills as needed. Colin, however, represented the technologically resistant; while he owned a home computer, he did not subscribe to an Internet-service provider and preferred to use pen and paper for writing tasks. As with any group of learners, pre-service teachers demonstrate a variety of technological abilities and preferences, compelling teacher educators to consider a number of factors when contemplating technology implementation.

Recently, teacher educators have moved to incorporate asynchronous communication tools – those not constrained by time or location – as supports for reflective practice. Ubiquitous asynchronous tools, such as personal email and course discussion boards, have the potential to enhance reflective practice in a variety of ways. Working across the limits of time and location, asynchronous communication supports additional participation, provides time to reflect on issues before providing answers, and establishes a collaborative environment for support and learning (Germann, Young-Soo & Patton, 2001; Johnston, Duvernoy, McGill & Will, 1996; Hawkes & Romiszowski, 2001; Järvelä & Häkkinen, 2002; McDuffie & Slavit, 2003; Nicholson & Bond, 2003; Pringle, 2002; Riel & Fulton 2001; Sliva, 2002; Whipp, 2003).

Electronic mail, for example, allows individuals to write and send messages via electronic networks; an email message can be sent to one person or several people, with listservs used to

facilitate the sending of messages to groups of people. The interaction facilitated by emails and listservs has the potential to increase both discussion and questioning among pre-service teachers, as new ideas are introduced and old ones extended (Germann, Young-Soo and Patton, 2001; Whipp, 2003).

Discussion boards, or online interactive message boards, allow numerous participants at a time to focus conversations and questions around a given topic. Discussion boards support increased questioning and dialogue among pre-service teachers, while building collaboration and community. The lack of immediacy in the asynchronous discussions, as opposed to time-sensitive classrooms, also provides time for pre-service teachers to consider their answers before offering potentially more thoughtful responses to the topics under discussion (Bodzin & Park, 2002; McDuffie & Slavit, 2003; Mayer, 2002; Sliva, 2002).

The collaboration present in a learning community encourages understanding and learning from different perspectives. An asynchronous learning community also supports understanding from a variety of perspectives. Whipp (2003) instituted an email discussion among her pre-service teachers during their urban field placements, extending discussion beyond the university classroom walls. Mayer (2002) created on-line discussion groups to support pre-service teachers teaching throughout the vast distances of Australia. The independence of time and location made possible by the asynchronous communication provided the necessary flexibility in participation, as pre-service teachers could not be physically present in a classroom to contribute their thoughts and perspectives on teaching and learning. Sliva (2002) created an on-line discussion board during a mathematics methods course, the time delay required of the electronic medium versus the immediacy of the classroom environment encouraging critical thinking and reflection on the part of her pre-service teachers. Through these asynchronous discussions, pre-service teachers clarified, extended and refined their developing thoughts

beyond the physical limits of a class discussion, while providing support and feedback to each other. Not least, the asynchronous environment is often considered a less intimidating setting in which to speak, all participants being equal when represented by a computer screen.

Weblogs and Reflection

An emerging technology in teacher education, the weblog, provides another avenue for reflective exchange among pre-service teachers. Weblogs emerged in the 1990s as individually maintained websites, updated on a regular basis and organized around personally interesting links and commentary on those links (Barrett, 2002; Blood, 2002a, 2002b, 2002c). Weblogs are "a form that is native to the [World Wide] Web…all that is required [from the writer] is reliable access to a computer with an Internet connection" (Blood, 2002a, p. 9-10). As personal creations, weblogs are "owned" by the individual and presented to a wider audience by continuous publication through the Web. Discussion is largely self-sustained, as weblogs require the individual author's continued engagement with personally chosen topics. Interaction with outside readers is possible, however, through comment functions attached to weblog templates; as a form, weblogs "actively solicit ideas and opinions from their readers" (Blood, 2002a, p. 17).

The development of free online software tools – one of the most popular being Blogger – makes weblog creation independent from the knowledge of hypertext markup language (HTML) coding, encouraging the emergence of new weblog formats (Blood, 2002a; Fleishman, 2002). Weblogs are generated and maintained by the individual, allowing a variety of personal approaches to the weblog format to exist in the "blogosphere" (Ferdig & Trammell, 2004). One increasingly popular format is that of the online personal journal. The weblog as journal provides an open forum for individuals to detail their daily lives, to explore new ideas, to reflect on particular topics and to link to information of personal interest on the Web (Bull, Bull & Kajder, 2003; Blood, 2002a, 2002b; Ferdig & Trammell, 2004).

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Reflective journals have long been used in teacher education due to the benefits associated with pre-service teacher reflection. Bain, Ballantyne, Packer & Mills (1999) list several benefits associated with reflective journaling specifically: the facilitation of reflective thinking, the integration of theory and practice, the stimulation of critical thinking, the development of personal theories of practice, and the examination of personal beliefs and concepts. Through journals, pre-service teachers possess a forum to discuss issues of personal significance to them while developing and increasing their awareness of such issues (Collier, 1999; Dinkelman, 2000).

While the impact on pre-service teacher thinking and learning is significant, reflective journaling also provides personal benefits (Spalding & Wilson, 2002). By maintaining journals, pre-service teachers create a permanent record of their thoughts and experiences, generating an outlet for their concerns and frustrations. Pre-service teachers establish and maintain relationships when their journals are shared with others. Through the interaction and discussion supported by shared reflective journals, pre-service teachers also form learning communities with peers and colleagues (Francis, 1995; Hatton & Smith, 1995; Yost, Sentner, & Forlenza-Bailey, 2000).

Weblogs in reflective practice are an emerging application of the technology in teacher education. This is not a one-to-one exchange, as there are many differences in use, application and intention between traditional journals and emerging weblogs. Weblogs typically consist of short postings, often several in a day; postings may include hyperlinks to outside information found on the Web. The writing found in weblogs is informal; punctuation, grammar, spelling and capitalization are of little concern to writers or readers. In addition, weblogs are bound by their publication to the Web. Without Internet access, neither writer nor reader can access the weblog.

Stiler and Philleo (2003) replaced pen-and-paper reflective journals with weblogs in their teacher education class. These teacher educators cited several drawbacks to the more traditional paper journal (among them routine responses, illegible handwriting, and instructor access to the journal) and sought to move beyond these restrictions by using weblogs for the reflective process in place of the paper journal. In their analysis of the pre-service teachers' weblogs, they found that entries were longer and provided more analysis and evaluation, with increased breadth and depth in topic discussions. Stiler and Philleo (2003) also noted that some pre-service teachers expressed concerns with technological problems and the lack of privacy inherent in publishing to the Web. Overall, however, the pre-service teachers responded favorably to the use of the technology, prompting the authors to suggest engagement with technology as another motivating factor to incorporate weblogs into the reflective process.

Dodge and Molebash (2004) introduced weblogs to their pre-service teachers during an education course, encouraging – but not requiring – them to use personal weblogs for reflection during the student teaching practicum. An initial analysis found that "they focused most of their energy posting reflections on their experiences in the classroom," (p. 8) with recurrent themes of teaching performance and student behavior. An additional area of interest to the researchers was whether these pre-service teachers possessed the intrinsic motivation to continue with their weblogs after the completion of the course component. Initial results indicated very few pre-service teachers had done so (approximately three in a class of 20+ posted after the first semester ended), although the results of this study are still under analysis.

Bull, Bull and Kajder (2003) used weblogs as reflective journals for pre-service teachers in a technology course. They considered weblogs a "communication medium that is more structured than an e-mail list and more focused than a discussion board. The structure creates a framework for social networks and taps a basic human desire to interact and communicate" (p.

32). They determined that the specific format of weblogs encouraged their pre-service teachers to include multimedia links and embed multimedia objects within their postings, extending their reflective thinking. Bull, Bull and Kajder (2003) also noted economical writing and timely entries as benefits associated with weblogs used as personal reflective journals.

Lastly, Hernádnez-Ramos (2004) integrated weblogs and online discussion forums into a teacher preparation course in instructional technology to provide "meaningful mechanisms for students to engage in active reflection with a reference to larger social issues" (p. 3). Pre-service teachers were required to engage with both technologies; a rubric was provided to delineate the expected participation. Addressing weblogs specifically, Hernádnez-Ramos (2004) noted that the technology promoted reflective writing and community building. The pre-service teachers responded favorably to their experience with the technology, a number expressing their intention to use the technology in their own classrooms once they left the university. The public nature of weblogs, however, was both a "motivating and threatening resource for students, most of whom [were] not accustomed to publishing their ideas for worldwide consumption via the Web" (p. 13). The overall response to both technologies was positive, with few pre-service teachers (three of 56) reporting technical problems.

The potential of education technology for reflection in teacher education – the established benefits of reflection to pre-service and practicing teachers – the need to acknowledge and create meaningful practical theory: These three elements combine to support research on technologically supported reflective practice to create and sustain practical theory in teacher education.

EXCERPT 3

From the researcher's weblog: October 2004

I'm meeting with another student who wants to set up a weblog. I had the pleasure of working with two interested students today and the pleasant surprise of another student dropping by to throw his hat in the ring. I always get a chuckle over how surprised they seem that I'd want to read their weblogs. Well, I suppose it might seem a little odd – not so much if they saw what I usually read – but I have this sneaking suspicion they have something to say. More importantly, I think I can actually learn something from what they have to say and that's worth adding a few more screens of print to my daily diet.

***

I have to write this down quickly so I (a) won't forget it and (b) will believe I thought about it months from now…Research rests on relationships – the ones we form, the ones we alter, the ones we lose. I would go so far as to say the foundation of qualitative research is relationships. We ask people to let us into their lives, so that we can ask questions, gather stories, explore meanings. We do this because we are interested, not just in the research topic, but in the people supporting the topic. So, what does that mean for me when I sit down to make sense of all this in June?

CHAPTER III:
THE STUDY

"You're sure you want to read through all our crap?" ~Davis

As a meaning-making process supported by both thought and action, reflection provides

entry to the viewpoints and understandings that form pre-service teachers' practical theory while

encouraging alterations to that theory. My experience with the MAT pre-service teachers during

the summer course provided a number of opportunities for reflective thinking: out-of-class

essays, in-class writings, small group discussions, instructor-student conferences. These forms

of reflection tended toward the more formal and structured, however, with the reflective content

and approach determined by assignment or instructor guidelines. As a result, there was much in

terms of pre-service teachers' meaning-making and understanding that I, as a teacher educator,

could not access easily due to the existing reflective structure, as well as time and space

constraints. That concern, coupled with my interest in educational technology, suggested the

need to explore a different route for reflective practice and practical theory construction.

Educational technology provides both access to and a form for pre-service teacher

reflection. Teacher educators have explored the reflective potential of e-mail, discussion boards

and class listservs with generally positive results (Bodzin & Park, 2002; Germann, Young-Soo &

Patton, 2001; McDuffie & Slavit, 2003: Sliva, 2002; Whipp, 2003). The emergence of weblogs in

teacher preparation programs offers an additional format to explore for pre-service teacher

reflective practice. Although presented as the technological equivalent to journals, weblogs

possess certain characteristics that differentiate their use and role from the oft-used

pen-and-paper journal: personal publication to the web, reader engagement through a comment function, and constant access via the Internet. Current research suggests that weblogs offer a unique space for reflective thought, allowing pre-service teachers to document their experiences, make sense of their concerns and question their understandings in an informal electronic environment both individual and communal (Bull, Bull & Kajder, 2004; Dodge & Molebash, 2004; Hernández-Ramos, 2004; Stiler & Phlleo, 2003) .

From this foundational understanding, a qualitative research study was designed around the following research questions: (1) What happens when pre-service teachers use the unfamiliar technology of weblogs? (2) How might pre-service teachers incorporate this new technology into their reflective practice?

Designing the Qualitative Research Study

How does one determine the "best" approach when designing a research study? Glesne (1999) offers an explanation that rings true to me as a researcher and as a teacher educator:

> The research methods you choose say something about your views on what qualifies as valuable knowledge and your perspective on the nature of reality…Quantitative methods are, in general, supported by the *positivist* paradigm, which characterizes the world as made up of observable, measurable facts. Positivists assume a fixed, measurable reality exists external to people. In contrast, qualitative methods are generally supported by the *interpretivist* (also referred to as *constructivist*) paradigm which portrays a world in which reality is socially constructed, complex, and ever changing…To understand the nature of constructed realities, qualitative researchers interact and talk with participants about their perceptions. (pp. 4-5)

In keeping with Glesne's (1999) presentation, a qualitative research design was determined most appropriate for a study that proposed to explore pre-service teacher practical theory and reflective practice as approached through the educational technology of weblogs.

Qualitative research is exploratory in approach, multi-method in focus and interpretive in nature (Denzin & Lincoln, 1994; Marshall & Rossman, 1999; Patton, 1990). The research questions for this study, for example, were designed to be exploratory, valuing pre-service teacher interpretation of experience and construction of understanding. Multiple data sources for the study were deemed essential for exploration of the research questions, resulting in the collection of weblog entries, field notes and emails and the conducting of individual interviews and focus group interviews. Through these different data sources, a richer understanding of the research is possible, with potential limitations in one source balanced against potential benefits of another (Bogdan & Biklen, 1998; Patton, 1990).

The theoretical framework for the study is situated in the interpretation of the tripartite elements of practical theory, pre-service teacher reflective practice and the educational technology of weblogs. Through the analysis of the data collected, as well as explanation of the elements mentioned above, a guiding theory emerges. The materialization of theory developed through exploration and analysis of data was presented by Glaser and Strauss in 1967 as grounded theory. In this framework, "theoretical concepts which are developed during an investigation are *discovered* in the data and have to *prove themselves* in the data" (Hildenbrand, 2004, p. 18). Grounded theory requires that the researcher discover concepts through inductive analysis of the data to generate a workable theory (Glesne, 1999). Such theory still serves the function of "explanation and prediction" (Glesne, 1999, p. 22) required of qualitative research but does so by establishing itself through the analysis of the data. In this manner, the researcher uses her understanding of particular elements to design a qualitative study that will, in turn, yield its guiding theory through the analysis and interpretation of the data collected during the course of the study.

The guiding elements of this research framework consist of practical theory, reflection and weblogs. In essence, pre-service teachers enter teacher education programs with a working practical theory that informs their thoughts and actions, formed from experience, knowledge and values (Handal & Lauvas, 1987, Lortie, 2002). Through reflection, pre-service teachers reaffirm, reassess and recreate their practical theory as it relates to actions and beliefs on teaching and learning (Francis, 1995; LaBoskey, 1994; Liston & Zeichner, 1990). The weblog, a technological medium available to pre-service teachers in a variety of situations, can function as an individual reflective space while providing a forum for communal interaction (Bull, Bull & Kajder, 2003; Stiler & Philleo, 2003). Taken together, these elements create a working foundation from which to explore weblogs as spaces for pre-service teacher reflective practice. Figure 1 illustrates the interconnectivity of the three elements.

Figure 1: Working Elements of the Research Framework
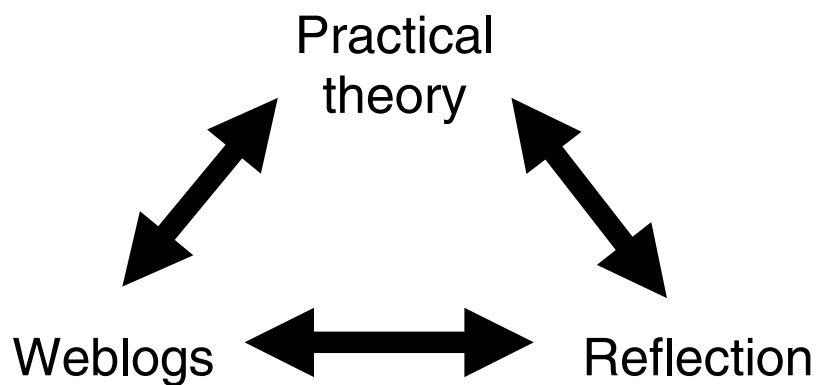
Pre-service teachers' practical theory supports their understanding of previous teaching and learning and guides their formation of new experiences with teaching and learning during teaching preparation. By engaging the practical theory of pre-service teachers, teacher educators have entry to the foundational understanding guiding pre-service teachers as well as access to

both challenge and extend their continuously forming comprehension. The inclusion of reflection in teacher preparation provides one practice with multiple benefits, one of which is the access and extension of pre-service teacher practical theory.

Reflection, grounded in Dewey's (1910/1997, 1933/1960) and Schön's (1983, 1987) interpretations of reflective thinking, provides a means to challenge personal understanding and move toward individual change. The meaning-making process of reflection requires that pre-service teachers question their comprehension of situations, activities, interactions and structures; through exploring their own understanding and questioning the veracity of the same, pre-service teachers effect change in their actions and beliefs. Such change through reflection is also supported through the challenge and support found in a learning community (Riel & Fulton, 2001). Dewey and Schön saw the interaction between individuals – exhibited through the challenge, support, inquiry and affirmation of conversation – as crucial to the development of meaningful reflection.

As recognized by Dewey (1933/1960), reflection is a rigorous process that demands time and focus to develop into a habit of mind. Time and focus are two elements pre-service teachers often contend with in their preparation, divided as they are between university and classroom, public and personal, practical and theoretical. Recognizing the benefits of reflection, teacher educators must reconcile the realities of pre-service teacher preparation with the opportunities for alternative methods of reflection.

Emerging in teacher education programs, the educational technology of weblogs provides an alternative means to support both pre-service teacher reflection and practical theory development. Accessed through the Internet, created and maintained by the individual yet available to a larger community, weblogs possess unique characteristics that extend to the generation of reflective thinking. The importance of weblogs in reflection lies not with the

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process itself – certain steps followed or specific levels achieved – but with the more heuristic aspect of meaning-making through individual engagement. The question, then, is not whether pre-service teachers can demonstrate proficiency with a particular structure of reflection but whether, by engaging in a potentially reflective activity such as blogging, they view reflection as a meaningful process for their growth and change as teachers.

Gathering Participants

In the fall of 2004, fourteen pre-service teachers from the summer course were invited to attend an informal discussion about reflective practice. No longer teaching, I was now working as a supervisor to those pre-service teachers in the content area of English language arts. Unfortunately, in accordance with university Institutional Review Board policies, students with whom I currently worked were not available as research participants, resulting in the exclusion of any English language arts pre-service teachers from my study.

Nine pre-service teachers attended this voluntary evening meeting, representing the content areas of English as a second language (ESL), mathematics, science and social studies. The meeting opened with an informal group discussion on reflective practice, with pre-service teachers sharing their current understandings and impressions of reflection in response to my questions. Discussion topics included personal definitions of reflection, whether there was a right or wrong way to reflect, and why reflective practice was stressed in teacher education.

Following this discussion, pre-service teachers were introduced to weblogs, an LCD projector linked to a laptop computer with Internet access providing visual representations of the new technology. A variety of weblogs, maintained by practicing teachers and student teachers, were shown to the pre-service teachers. These included *Blog of a Math Teacher* (found at http://math-teacher.blogspot.com), "an occasionally updated log of a newly minted math teacher's experiences"; *High School, Unscripted* (found at http://hsunscripted.blogspot.com), "a

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teacher journal – musings on students, lessons, good days, bad ones…"; and *Ms. Frizzle* (found at http://msfrizzle.blogspot.com), "the adventures of a science teacher in a small public middle school in the Bronx." These examples initiated a discussion of weblogs as a potential medium for pre-service teacher reflection.

A research study combining reflective practice and weblogs was then outlined to the pre-service teachers. The requirements of the study were explained quite simply: to maintain an individual weblog for the remainder of the program and to participate in both individual and focus group interviews over the course of the program about their experiences. No restrictions were placed on the content or the frequency of weblogs postings. As I explained, "You have control over what you write; you have control over how often you write." Whether to read and/or comment on fellow participants' weblogs was also determined by the individual. The pre-service teachers were encouraged to take some time to consider their participation and contact me in the following weeks if they were interested in the study.

From this initial meeting, eight pre-service teachers (four female and four male) elected to participate in the study. In addition, a ninth female pre-service teacher indicated interest in the study after speaking with other participants; following a face-to-face meeting to explain the background and requirements of the study, she also elected to participate. In all, the pre-service teacher participants represented the following content areas: ESL – 1, mathematics – 3, science – 3, social studies – 2. After consenting to take part in the study, each pre-service teacher set up a personal weblog through the Blogger weblog service, requesting my assistance if needed.

Details of Time and Data

This study was conducted during an eight-month timeframe within a twelve-month teacher education program. In keeping with the production of grounded theory, data was collected and analyzed during Fall 2004, when pre-service teachers were engaged in university

coursework on campus; Spring 2005, when pre-service teachers were engaged in student teaching off campus; and Summer 2005, when pre-service teachers returned to campus to complete coursework and exit the program.

The complete data set includes participants' individual weblog postings, individual interviews and focus group interviews, multiple sources of data that support the "flexibility that allows, even encourages, exploration, discovery, and creativity" in qualitative research (Marshall & Rossman, 1999, p. 140). During the study, 263 weblog entries were collected from eight individual weblogs. Two group interviews and 23 individual interviews were conducted. The initial meeting, conducted in the Fall 2004 semester, formed the first group interview. The first round of individual interviews was conducted in December of the Fall 2004 semester. Six participants were available for face-to-face interviews; one participant responded to interview questions via email. Two participants rescheduled their face-to-face interviews for January of the Spring 2005 semester. The second round of individual interviews was conducted in March of the Spring 2005 semester, with five participants available for face-to-face interviews. The last round of interviews, with all participants available, was conducted in June of the Summer 2005 semester. In addition, a second group interview was also conducted in the summer semester.

The sheer quantity of data collected during the course of this study required premeditated planning for efficient and effective data recording strategies (Marshall & Rossman, 1999). For example, all interviews were recorded using a digital audio recorder. Following each interview, the digital file was downloaded to my laptop computer for transcription. Each transcription was then printed for on-going analysis and filed for future use. An organized system for managing the data generated during the study contributed to the "process of bringing order, structure, and interpretation to the mass of collected data" (Marshall & Rossman, 1999, p. 150) known as data analysis.

Qualitative content analysis is the data analysis strategy for this study, informed by Wilkinson's (2004) work with content and ethnographic analysis. Examination of the main data set – in this study, composed of weblog entries, individual interviews and focus group interviews – reveals a system of categories and recurring themes that serve to elucidate the meaning made from the data (Mayring, 2004; Patton, 1990). The context in which the data is articulated also assists with the meaning-making process of qualitative content analysis. Calderhead and Gates (1993) validate the importance of context, as well as content, in examining pre-service teacher reflection.

Wilkinson (2004) presents content and ethnographic analysis as applied with focus group interviews; her discussion of the analysis, however, is applicable for the overarching qualitative content analysis used in this study. As explained by Wilkinson (2004), content analysis allows for an examination of the data as a whole, where recurrent themes are identified across the data and grouped through a coding system. To move beyond the quantification of the data often assumed in the identification and grouping of content analysis, Wilkinson (2004) proposes ethnographic analysis. In ethnographic analysis, specific issues are selected for analysis in greater depth and detail. Such analysis endeavors to "ground interpretation in the particularities of the situation under study, and…[represents] the social world from the participants' perspective" (p. 183). Ethnographic analysis, then, moves beyond initial content analysis: more selective than comprehensive, requiring interpretation of details and inclusion of context.

The articulation of the data through ethnographic analysis "provides a mechanism for shaping intervention within a particular social formation, conjuncture or context" (Slack, 1996, p. 112). By applying an ethnographic lens, the researcher's analysis accommodates the depth

and detail found in a particular topic or situation. The articulation of the particularities in the data, in turn, supports the heuristic understanding generated in grounded theory.

How to be a Researcher

An important piece of this particular study is my role within the research. In qualitative research, the researcher is involved in a "web of moral, practical, political, and personal beliefs and ideas that help researchers navigate complex and multiple roles between themselves, participants, and local contexts" (Brizuela, Stewart, Carrillo & Berger, 2000, p. xvi). Acknowledging that I serve as a research instrument (Marshall & Rossman, 1999), I must then consider my role in the research, the negotiation of reciprocity and the ethics of personal subjectivity.

In this study, I moved along the participant/observer continuum from active participant to non-participant/observer, adjusting my role to the research task at hand (Bogdan & Biklen, 1998; Glesne, 1999; Marshall & Rossman, 1999; Patton, 1990). I inhabited the expected role of researcher while conducting interviews; my scratching pen and voice recorder clearly set me apart from the pre-service teacher sitting across from me. The role of participant, however, was one I inhabited in multiple ways throughout the course of the study.

When formulating the concepts that would solidify into this study, I created a personal weblog, as I believed I should "share the experience with those willing to participate in my study" (Weblog; Aug. 2004). Throughout the study, I maintained this weblog, discussing my research efforts, educational issues and personal aspects of my life in the electronic space. I also participated in the larger weblog community found on the Web by reading and commenting on weblogs that attracted my interest through their discussion of educational subjects, their treatment of life in academia and their sense of humor. After some consideration, I also commented on the weblogs created by the pre-service teachers taking part in the study. My

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comments, like my participation, ranged along a continuum: from simple agreement ("A very

interesting list, indeed!") to emotional support ("By the way, hope you feel better soon"), from

pointed questions ("What's the harm in a school uniform? Don't they help to reduce conflict and

support equality among students?") to personal conviction ("I do think parents care about their

children and I do think they want to see them succeed in school").

My role as participant and researcher was certainly blurred through my involvement with

the weblogs. Reading weblog postings while sitting at my kitchen table placed me firmly in the

role of non-participant; commenting on those same postings, while maintaining a weblog of my

own, moved me to the role of active participant. My involvement, however, is a natural

outgrowth of my interest in unstructured reflection and communal interaction; if I expect pre-

service teachers to maintain their own weblogs, while reading and commenting on others, I must

do the same. Dinkelman (2003) encourages teacher educators to "practice what they preach" (p.

11); modeling a practice is just as valuable as teaching a behavior that may lead to that practice.

Following this logic, pre-service teachers in the study had access to my weblog and, on occasion,

posted comments in response to my writings. Kate, for example, wrote the following in

response to a lament of my constantly re-inscribed role as a "strict" teacher:

> It's not always a bad thing to be the strict one or the serious one. As a matter
> of fact, I feel like I actually learned more from your summer class than any other
> thus far, because your class [had] a definite structure and concrete deadlines. This
> is not flattery, it's the truth…You at least had definite expectations and expected,
> rightly so, that *everyone* should stay awake and talk and participate actively in
> your class. (W; Nov. 2004)

I acknowledge that by interacting with these pre-service teachers, I have formed

relationships that have both influenced them and influenced and changed me (Rogers, 2000).

Our relationship began with me in the role of teacher and each pre-service teacher in the role of

student. As I collected data and conducted interviews, however, those roles altered, situating me

as the learner before the pre-service teachers as instructor. Learning was a reciprocal process,

then, adjusted in accordance with time (before, during and after the study) and place (in and out of the classroom).

Although I had no explicit authority over the participants – I did not issue grades, for example, or influence the grading policies of their instructors – our initial relationship was formed during our assumed roles of instructor and student, a relationship influenced by the power inherent in those traditional roles (Brizuela, Carrillo & Berger, 2000; Glesne, 1999; Noblit, 1999). Therefore, although our interactions became less formal over the course of the study, the roles of instructor and student were seemingly re-inscribed during individual and focus group interviews, bringing reminders of the power structure subsumed in those earlier roles. The pre-service teachers themselves reminded me of this residual structured relationship when, during interviews, they asked if they were giving the "right" answers to my questions. Such a response implies that the pre-service teachers were aware of, if not also influenced by, my presence in the study. This begs the question of researcher subjectivity.

Established qualitative researchers have validated the existence of subjective lenses, claiming that recognizing one's subjectivity can create more trustworthy research and contribute to the research itself (Denzin & Lincoln, 1994; Glesne, 1999; Patton, 1990; Wolcott, 2002). Certainly, subjectivity can lead to distortions and misconstructions of the research if not recognized and acknowledged. The owning of one's subjectivity, however, does not inevitably invalidate one's research. Rather, as Glesne (1999) explains, authentic treatment of one's subjectivity can serve as an additional support for and strength of the research; her insightful explanation is worth quoting at length:

> When you monitor your subjectivity, you increase your awareness of the ways it might distort, but you also increase your awareness of its virtuous capacity. You learn more about your own values, attitudes, beliefs, interests, and needs. You learn that your subjectivity is the basis for the story that you are able to tell. It is the strength on which you build. It makes you who you are as a person and as a researcher, from the selection of topic clear through to the emphasis you

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make in your writing. Seen as virtuous, subjectivity is something to capitalize on rather than to exorcise. (p. 109)

Recognizing the inherent nature of my subjectivity, whether formed through beliefs held or relationships formed, personally reflective writing is included throughout this study. My willingness to expose the personal does not detract from the theoretical foundations or the practical implications; rather, the owning of my place in the research process allows for a more honest explication of both process and outcome.

Another issue of relationship in this study comes from the formation of friendships. Glesne (1999) acknowledges that issues of rapport and friendship between researcher and participants do exist and that most researchers do form friendships as "the nature of the research requires getting to know a small number of people well" (p. 103). Qualitative research, to some degree, depends upon the researcher possessing the necessary interpersonal skills to conduct the needed research: "being an active, patient, and thoughtful listener and having an empathetic understanding of and a profound respect for the perspective of others" (Marshall & Rossman, 1999, p. 85). Although earlier presentations of research advocated rapport while avoiding friendship, Glesne (1999) recognizes the symbiotic nature of the two states, encouraging researchers to accept the multiplicity of relationships that may evolve during research with authentic, open and respectful intentions.

Rapport and friendship were factors from the beginning of the research study. When approaching this group of pre-service teachers for participation in the study, for example, I did so under the assumption that a pleasant relationship already existed from our experiences during the summer course and, consequently, they might feel more inclined to consider participation in the proposed study than would relative strangers. Over the course of the study, several pre-service teachers and I found ourselves in friendly contact outside the research setting: stopping for sociable conversations in the school hallway, emailing information of interest, meeting for

cups of coffee. The conclusion of the study coincided with their graduation from the program, an event I attended as much from friendly support as instructional pride. During the summer, some of the former participants maintained a connection – sending emails, stopping by my office for conversations – although this interaction tapered off with the demands of teaching as they entered their own classrooms in the fall.

Rapport and friendship are therefore acknowledged as existing in and contributing to this study. During individual interviews, for example, pre-service teachers mentioned that they wanted to "help me with my research" through their answers, expressing a concern that their participation in the study be of use in completing my dissertation. The eagerness of the pre-service teachers to offer their support stirred slight feelings of unease as I began this study.   Was I taking unfair advantage of people I genuinely liked and cared for?

Glesne (1999) reassures that such feelings are typical in qualitative research. Rather than attempting to remain objective and distant, however, a researcher can embrace the natural permutations relationships undergo through the research process, weaving the understandings gained from such relationships into the research itself. Her explanation of the interaction between qualitative research and friendship is, again, worth quoting at length below:

> Friendship may be a goal that rapport helps to achieve. Friendship may assist you and research participants to develop new understandings in a negotiated fashion…Friendship and intimacy is messy, emotional, and vital. No matter how much you try to practice "relational ethics" (Flinders, 1992) with research others, no matter how much your friendships go beyond the research site and time, feelings of exploitation or betrayal may bubble up from time to time in either researcher or other. (Glesne, 1999, p. 103)

Taking my cue from Glesne (1999), I accepted the natural existence and the messiness of relationships in the research study while continuing to examine our interactions for signs of undue influence. The personal nature of qualitative research, with face-to-face interviews and communal meaning-making, does not allow for an objective rendition of research findings. I

cannot separate myself from this study, even without my comments on the pre-service teachers' weblogs or my maintaining a personal weblog, because my subjectivity, as Glesne (1999) reminds us, is the basis for this research. Therefore, I cannot truly subtract myself from the study. I can, however, claim that I did my best to avoid directing the pre-service teachers' actions and reactions throughout the study. When questioned about appropriate topics, I reminded them that they could write on any topic they chose. When asked about quantity of posts, I replied that they could write as many or as few as they wished. When the pre-service teachers expressed any concern that they were not fulfilling my expectations with the weblogs, I offered the same response: These weblogs are for you to do with as you wish. Whatever my influence on the pre-service teachers may have been, my efforts to remain impartial during the study were truly sincere.

The personal and interpersonal nature of qualitative research requires the researcher to consider such ethical dimensions as friendship, rapport, confidentiality and reciprocity (Patton, 1990). Confidentiality of participation and data, especially with the inclusion of focus group interviews (Wilkinson, 2004), is a recognizable issue with this study. The interactions between the pre-service teachers, before and during the study, precluded anonymity; although I was able to assure the confidentiality of their interview material, I could not assure the privacy of their inclusion. From observed interactions between the pre-service teachers and comments made during interviews, however, the pre-service teachers did not view the fact of their participation as a privacy issue. Indeed, discussion among a number of the pre-service teachers about their participation in the study brought another pre-service teacher into the study, as mentioned earlier.

Privacy was at issue, however, with the use of public weblogs for personal reflection. Although data files can be secured against outside eyes, the public nature of weblogs

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automatically limits the confidential nature of research conducted in an electronic environment. This issue was discussed in the first focus group interview, with the pre-service teachers voicing initial questions and concerns, and resurfaced eight months later during the second focus group interview. Two pre-service teachers specifically, Kate and Eric, discussed this issue in our face-to-face interviews. Obviously a recurrent theme, the issue of confidentiality, in the guise of privacy, is a topic that will be discussed at greater length.

Reciprocity is another ethical element at issue in this study. As Marshall and Rossman (1999) indicate, qualitative research intrudes into participants' lives, requiring them to adjust routines and offer time for interviews. An acknowledgment of that time and effort is the minimum a researcher can offer her participants. A small gesture on my part was to provide food when we met as a group: pizza and sodas during the first meeting, sandwiches and fruit during the second. Understanding the scarcity of their time, I arranged for our group interviews to meet at meal times, encouraging the pre-service teachers to munch as we talked. Individual interviews were often conducted at a local coffee shop or a student lounge in a university building, comfortable places known to the pre-service teachers – small elements, perhaps, and far from the financial compensation provided from some studies. What I could provide, however, was "the means to be grateful, by acknowledging how important their time, cooperation, and words [were]; by expressing [my] dependence upon what they [had] to offer; and by elaborating [my] pleasure with their company" (Glesne, 1999, p. 127).

EXCERPT 4

From the researcher's weblog: December 2004

*Today was just one of **those** days, and, although it seemed like a good idea at the time, finishing off the half-gallon of ice cream did not make the day any better. The day didn't exactly start off on a high note when I groggily headed for my bowl of cereal and realized by the arctic temp of the kitchen that the front door of the apartment was standing wide open. My roommate, alerted to the state of events by my loud and somewhat colorful invective, realized she must not have completely closed the door when she came in at 2am. So! I'm so glad I'm the one sleeping at the front of the apartment, closer to the potential murderer who happens to seize the opportunity. [Okay, that's a bit histrionic…] The one bright spot was starting my first round of interviews this afternoon - and, yes, I'm actually serious about that. This means I have a few hours of transcribing in front of me - always fun - but bearable since I'm actually interested in what the person has to say. I worked on a research project my first semester in grad school, transcribing focus group interviews of middle schoolers involved in project-based learning. I think that was a clear-cut case of mental torture. Of course, I was also using a tape recorder for the transcriptions: play, stop, rewind, play, pause, play, stop, rewind (too far), fast forward (too far), play, stop, threaten to throw tape recorder through window...it took a few days. At least digital recorders make the actual process easier to bear.*

CHAPTER IV:
PRE-SERVICE TEACHERS USING WEBLOGS

"So, what do you know about weblogs?" ~Melanie
"About what?" ~Colin

Introducing pre-service teachers to a new concept, a different interpretation or an alternative perspective is to engage their practical theory. In the fall of 2004, nine pre-service teachers agreed to introduce the new educational technology of weblogs into their daily routines when they consented to participate in this study. That these pre-service teachers were largely unfamiliar with weblogs was evidenced during the first focus group meeting. The concepts guiding weblogs, however, were familiar to them, allowing the pre-service teachers to apply and adapt their understanding as needed.

Weblogs are accessed and maintained in an on-line environment; all the pre-service teachers were familiar, if not proficient, with technology, using e-mail and class discussion boards to interact with classmates and an electronic submission system to submit coursework to their professors. Weblogs are often referred to as on-line journals (Blood, 2002a); Kate and Lauren specifically mentioned keeping personal journals in the past. Weblogs allow readers to comment on the posted thoughts of others; electronic discussion boards used for out-of-class discussions required responses to others' posted entries. The combination of these elements in a weblog, however, provided a new environment for the pre-service teachers, one they could accommodate with their existing practical theory but one that would require use and effort to be absorbed into daily use.

One area of interest to me was the seemingly simple exploration of how the pre-service teachers used the unfamiliar technology of weblogs. How often would they post their thoughts? What themes, educational or general, might emerge in their writing? Would they interact with each other through their weblogs? My analysis of their weblog postings, as well as the numerous interviews conducted over the course of the study, revealed interesting responses to these questions.

Weblogs and Issues of Time

In the fall of 2004, the pre-service teachers remained on campus for coursework. On-site classroom observations were required during the semester but the majority of the week was spent on the university campus. During this time, eight of the nine pre-service teachers posted entries to their weblogs. The number of postings varied among the pre-service teachers, ranging from Colin's three to Kate's 79, as did the frequency of postings, ranging from several times a day to several times a month.

In the spring of 2005, all of the pre-service teachers left campus to take part in a full-time teaching practicum. The pre-service teachers returned infrequently to the university campus, only coming in the evening for limited course modules; the majority of the semester was spent in their cooperating classrooms engaged in the responsibilities of teaching. During this student teaching semester, five of the nine pre-service teachers posted entries to their weblogs. The number of postings decreased among the pre-service teachers, from Eric's one to Kate's 46; the frequency of postings also decreased, ranging from one time only to several times a month.

The pre-service teachers returned to campus for the conclusion of their program in the summer of 2005. In addition to coursework, they were also finalizing their involvement in the

local schools and applying for teaching positions during this time. Only two pre-service teachers posted to their weblogs during this summer semester, Nicole writing one entry and Kate writing eight entries. Interestingly, these two pre-service teachers continued posting to their weblogs after the completion of this study. As of this writing, Kate and Nicole – both practicing teachers in local middle schools – have written a combined total of 58 postings, Kate posting 41 entries and Nicole posting 17.

A summary of weblog entries posted each semester, as well as the pre-service teacher participants and the names of their individual weblogs, is contained in Table 1.

PARTICIPANT	NAME OF WEBLOG	#ENTRIES FALL 2004	#ENTRIES SPRING 2005	#ENTRIES SUMMER 2005
Abby	Preservice Gal	14	0	0
Colin	Colin's Blog	3	0	0
Davis	Icy Cold One	16	19	0
Eric	Preservice	8	1	0
Kate	Polyester Pants	79	46	8
Lauren	An Apple's Perspective	10	0	0
Nicole	Kattitude	12	12	1
Shannon	too much pressure	15	9	0
Zach	change this later	0	0	0

Table 1: Pre-Service Teachers' Weblogs with Total Number of Entries

As Table 1 shows, weblog postings were more frequent during the Fall 2004 semester, when weblogs were introduced and pre-service teachers were on campus for classes. Postings declined as the pre-service teachers moved into student teaching positions in the Spring 2005 semester; the Summer 2005 semester found only two pre-service teachers posting entries, despite pre-service teachers returning to campus for coursework.

When questioned about the quantity of their posts, several pre-service teachers noted their access to an on-campus computer lab during the Fall 2004 semester, indicating that having

reliable access to the Internet and time between classes may have encouraged them to post to their weblogs. The majority of postings in each semester, however, were time-stamped in the afternoon and evening, when pre-service teachers were not on campus or in their assigned schools.

Time was an issue often addressed by the pre-service teachers, with several of them making reference to time through their weblogs. During the fall semester, pre-service teachers mentioned the lack of time to complete required coursework and quality classroom observations. Lauren specifically noted that there was too little time to consider students and schooling because of the time spent on schoolwork (W; Nov. 2004). In the spring semester, pre-service teachers regularly mentioned their lack of free time as a result of the demands of teaching. Nicole, as one example, decried the number of activities to accomplish in one day and her inability to complete them without falling asleep during her first faculty meeting (W; Feb. 2005).

The pre-service teachers were open about the lack of time devoted to their weblogs. Abby apologized for her irregular postings, explaining, "I don't have enough time to write more frequent [blog entries]…I am always thinking about things that I would like to put in there although I don't necessarily get those thoughts on-line every night" (Interview; Dec. 2004). Eric acknowledged that his postings were quite long in the fall, while if he began to post in the spring, his postings would need to be "short and sweet and to the point" because of his limited free time (I; Feb. 2005). During his final interview, Eric acknowledged that he had not posted to his weblog during his student teaching, despite his good intentions; his explanation was quite simple: "I really didn't find a good time to do it" (I; June 2005).

Time was an especially meaningful subject for Kate. In her first interview (I; Dec. 2004), she explained that she was confronting her issues with time, echoing sentiments

expressed in her weblog when she wrote, "Oh, time management, you are the bane of my existence…too many deadlines and not enough hours in the day" (W; Oct. 2004). By the end of the fall semester, the lack of time had become even more important to Kate; she admitted to spending more time on other people than on herself, even though it was important to her to "make time for the people I love and for the things that make me happy" (W; Dec. 2004). January found Kate applying the issue of time to her profession as well as her own situation, writing,

> As teachers we have to take time out for ourselves or else we will break under the pressure and leave. So I am trying to go easy on myself, being aware of when I just need to let it all go and spend the night watching bad TV or reading a book…but the effects are always short-lived…at this moment I feel like a person who is…lacking the energy and time needed to think up all these brilliant things to do in the classroom. (W; Jan. 2005)

During the student teaching spring semester, Kate referenced time in terms of feeling sleep-deprived or overwhelmed by the amount to do each day. By the summer semester, however, Kate was noting how quickly the program had passed, asking, "Can it really be time to go?" (W; June 2005). Of note is the fact that Kate did not offer her weblog as an intrusion on her limited time, mentioning only in the last interview that she did not edit her recent posts as carefully as she might have because she did not have the time to do so (I; June 2005).

Certainly, time was a factor in the quantity of weblog entries posted over the course of the study. The definition of time, in this particular situation, may mean many things, however, from "number of open hours in a day in which to perform a task" to "amount of time I am willing to devote to a certain project." In the last focus group interview, Lauren appeared to express the latter point when she explained, "It's just hard to find time to sit down, pull up the computer [and] find your theme" (Focus Group; June 2005). Shannon agreed with her, providing an additional disclaimer about the time required for blogging, saying, "Yeah, if you schedule time to sit down, it's not like you're always going to have great reflections at that

specific time, while you're sitting there." A point to remember is that the pre-service teachers had control over the quantity of weblog postings throughout the study. Their openness in why they did not post, as well as the range of postings among the weblogs, appears to illustrate their acceptance of that research guideline.

The Technical Side of Weblogs

As Nicole highlighted during the final group interview, "I type faster than I write [so] it was easier for me to get out a lot of thoughts, a lot of content" (FG; June 2005), today's pre-service teachers are generally experienced with technology and accustomed to utilizing it for personal productivity. Computer experience among this group of pre-service teachers ranged from Davis, a former computer programmer, to Colin, a self-proclaimed technophobe. Each pre-service teacher had some familiarity with the use of Internet-connected computers, however, despite their varying levels of comfort, as demonstrated by assigned coursework in their first summer course of the program.

Overall, the pre-service teachers reported the technical experience of working with weblogs as a positive one, with general technical problems resolved by the individual. In the fall, Kate and Eric specifically recorded experiences with technical issues in their weblogs, noting their frustration over lost posts. No pre-service teacher expressed any technical problems in the spring or summer, however, perhaps due to the reduction in weblog usage but also potentially attributable to a greater familiarity with the weblog platform.

Getting Comfortable On-Line

As noted earlier, weblogs exist in an on-line environment. Because of accessibility through the Internet, pre-service teachers are not confined to a particular computer or a specific location in order to post an entry. Nicole mentioned this element specifically in her first

interview when she noted that her weblog was "kind of like having a journal that you can access anywhere, whatever computer you're on" (I; Dec. 2004). Kate agreed with the benefits of on-line access, saying, "I do like the convenience of blogging; I'm on the computer a lot anyway, so I find myself writing more frequently that I probably would in a notebook" (I; Dec. 2004).

The accessibility through the weblogs to other people was also a positive aspect to the pre-service teachers. Abby was very strongly in favor of interaction with others through her weblog, explaining that "I do like the aspect of writing something and then other people, strangers, [they don't] have to be from our program, anyone who has an Internet connection can just come on in and agree with you or disagree, give you advice" (I; Dec. 2004). Davis also pointed out the positive aspects of outside interaction, saying, "You can get other people's feedback and you can give other people feedback; I think that's really a good thing, rather than just keeping a sort of personal log in a notebook" (I; Dec. 2004). As Abby's and Davis' comments illustrate, the communal environment of weblogs invites readers to share opinions and viewpoints that may differ from those expressed by the pre-service teacher, a benefit of collaborative discussion and learning communities (Feiman-Nemser & Buchmann, 1985; Johnston, Duvernoy, McGill & Will, 1996; Riel & Fulton, 2001).

Despite positive reactions to comments, however, the pre-service teachers continued to resolve their reactions to the public nature of weblogs throughout the study. In his first interview, Davis mentioned his reluctance to include more personal information in his weblog, preferring to concentrate on topics related to student teaching (I; Dec. 2004); in subsequent conversations, however, he did not address this issue. Kate mentioned more than once that her efforts to self-censor – changing names or leaving out certain details – were not difficult to manage but would not be an issue in writing a private pen-and-paper journal. She also related a specific privacy issue to me in Fall 2004: Having shared the address of her weblog with her

parents, her father was now calling her to recommend appropriate topics and grammatical corrections. (Kate solved this issue by changing her weblog address!)

Eric addressed the issue of privacy several times during his first interview, saying he avoided talking about certain topics by taking time to plan out what he wanted to write before posting (I; Dec. 2004). When asked about his experiences with blogging over the semester, he replied

> I think at first I was kind of scared to voice my opinions and put crazy notions on there. Because I was scared to look back and read my thoughts and be like, "I really said that? I really thought those things?" And then, when I started getting responses, like people are actually reading what I put on there, it kind of scared me even more, like other people that I don't know are reading my thoughts and that kind of freaked me out, but I'm getting a lot more comfortable with it…It's kind of nice to get a response back on what you're saying.

When I asked Eric for his thoughts on weblog privacy later in the study, he explained that, although he was still reluctant to include personal information, he had no concerns with discussing his student teaching experiences: "It's easy enough to leave out the personal life because what's on my mind is the student teaching stuff" (I; Feb. 2005). Eric summed up his approach to weblog privacy in his final interview when he explained, "The personal stuff I just kept up here [tapping temple] and really didn't air…just the professional stuff was really what I harped on" (I; June 2005). I found it interesting that Eric did not consider his teaching experiences to be of a "personal" nature.

For these pre-service teachers, the need for privacy battled with the pleasure of community. All agreed they enjoyed that others read and commented on their postings, but there remained a certain surprise when the transparency of their weblogs was revealed. Lauren raised this issue in her first interview, admitting her surprise when Davis commented on her weblog – "I didn't know Davis knew my [weblog address]" – but being pleased with his comments, finding encouragement in his thoughts on a particular issue – "some of the things he

agrees with me and some of it, he's just like, 'Get over it!' which [is good because] I'm stressed, I can't do anything right now…that was encouraging, that he agreed with me on some things" (I; Dec. 2004). Kate summarized the complexity of this issue during the final group interview when she explained her reaction to comments in the following way:

> I thought the question of audience for weblogs was kind of interesting, because some days I would really appreciate the fact that people were reading my blog and look forward to seeing if anybody had made a comment, and then other days, I'd be like, "Oh, who is this strange person who found my blog and put something random on here? I don't want you looking at this."

Weblog avoidance

As the two non-bloggers in the study, Colin and Zach provide interesting and informative insight into weblog use. Although both created weblogs at the beginning of the study, Colin posted a total of three times (Oct. 6, Oct. 24, and Nov. 11, 2004) while Zach only created an empty template. In their first interview, both admitted a preference for verbal conversation to written communication. Zach repeatedly said how much he enjoyed the conversation we were having between us at that moment as opposed to writing something down (I; Jan. 2005). Zach also stressed that he needed to establish some distance between professional and personal; he was reluctant to use his personal time for another task related to teaching, explaining, "When I get home, I just want to find some time for myself, not think about school".

Colin's experience was also defined by a preference for other forms of communication, as evidenced by his comment, "I personally like to just jot things down…I prefer a pen and paper than looking at a computer screen, because you can also do that anywhere" (FG; June 2005). Early on in the study, Colin explained that he did not actually enjoy using technology; he did not have Internet access at his apartment and preferred to use the university computer lab for most of his computing needs (I; Jan. 2005). Colin's experience with technology, in general,

was not a positive one; he described it as a "personality conflict between me and the computer" in his final interview (I; June 2005). During the final focus group interview, Colin explained,

> I couldn't even log in and then I did log in and I wrote one [post] and a couple days later I went and I wrote another one and I couldn't get it up on there and I was like, "Forget this" and then a week later…I went back and I couldn't log in again. I was like, "I've got enough going on."… I probably would have had an easier time figuring it out and maybe doing more if I had Internet access regularly, because I didn't have Internet at my apartment, and I didn't really have a computer that I could use very much at school. I didn't even answer emails.

Zach did not mention any technological conflicts; rather, his avoidance was defined by a preference for face-to-face discussion. Although Zach admitted to typing up an initial entry for his weblog (I; June 2005), he did not post it, preferring to communicate via email with select friends instead. In the Spring 2005 semester, Zach sent emails relating thoughts and humorous stories of student teaching to the fellow pre-service teachers in his science cohort, many of his emails also setting up social gatherings. Zach called his email habit "a release," using emails to discuss his student teaching and keep in touch with the science peers he did not see during the practicum. As Zach succinctly stated, "The weblog just wasn't my outlet" (FG; June 2005).

During the final group interview in June 2005, the pre-service teachers reiterated how much they enjoyed interacting with others during reflection. Shannon initiated a discussion on this topic when she noted that it was important to reflect, "just not necessarily time to yourself but maybe time talking to other people." In response, Kate, Davis and Lauren provided examples of working with mentor teachers or peers to reflect on different teaching situations. Davis and Kate also pointed out the benefits of communicating with others through weblogs, Davis suggesting a school- or department-wide weblog initiative and Kate describing the comfort she took in reading weblogs maintained by practicing teachers across the United States. This discussion exemplifies the pre-service teachers' thoughts on weblogs throughout the study. Even if they determined that the weblog format was not the best fit for their personal reflective

style, the pre-service teachers viewed weblogs as a generally positive medium and supported their use in teacher education.

How to Use a Weblog

Having explored different elements affecting the pre-service teachers' weblog use, I now turn to how the pre-service teachers actually used their weblogs. Colin and Zach being the obvious exceptions, for what purposes did the pre-service teachers maintain their weblogs? An analysis of the weblog entries, as well as interview transcriptions, revealed the following four ways in which the pre-service teachers used their weblogs over the course of the study: (1) as storage container, (2) as informal expression, (3) as intentional inquiry and (4) as individual exploration. The use of the weblogs for multiple purposes highlights the potential to meet the differing needs of both the individual user and the larger group. The naming of these particular categories does not proscribe additional categories, of course, but these four reveal themselves most often and most convincingly. Also of note, the topics discussed in the weblogs often cross categories, at times complicating my efforts at determining the most appropriate placement but illuminating the complexity of the pre-service teachers' shared experiences and thoughts.

The Weblog as Storage Container

In the weblog, the pre-service teachers possessed a space to record not only their thoughts and experiences but a specific place to store information to which they could easily return. These notes for future reference differed between the pre-service teachers, from Shannon writing out the questions students should ask when solving math problems (W; Nov. 2004) to Kate writing out excerpts from her class notes on lesson planning (W; Oct. 2004) and linking to potentially helpful websites for an upcoming presentation (W; Nov. 2004). In Eric's one post of the spring semester, he detailed a list of topics to think about later – grading papers,

creating tests, tracking students and, my favorite, "Why isn't it as easy as I thought it would be?" (W; March 2005) – supporting an earlier comment that he had topics to discuss but couldn't find the time to do so (I; Feb. 2005).

The weblog was also a container for memorable thoughts. With so much to process during their teacher preparation, it is not surprising that Kate expressed this sentiment: "I feel the need to put several things up tonight and get them out of my head" (W; Oct. 2004). Nicole's approach was much the same in one of her early posts: "Since I'm here, I might as well stash a few facts in case I ever become callous to the story" (W; Oct. 2004). She expressed a similar viewpoint again during student teaching, writing, "I'm hoping that if I take the time periodically to record bits of this journey along the way, maybe I'll have some sort of evidence at the end that I've gotten better at this" (W; Feb. 2005).

The Weblog as Informal Expression

A common element among all the weblogs was the informality of personal expression and the inclusion of affective elements. In other words, these pre-service teachers were not constrained by formal language structures or opposed to expressing their emotions in their weblogs. Davis posted several entries that were devoid of capital letters; Eric's postings replicated his speech, full of questions and lengthy sentences; Shannon did not correct every spelling mistake made in her posts. Even Colin's brief experiment with his weblog revealed a disregard for formal language: "Ok i'm seriously outta here now. Gotta go play graduate school with my pals" (W; Nov. 2004).

A variety of expressive language was also maintained among the weblogs, constrained only by the personal choice of the individual. Kate and Nicole turned to explanation when they wanted to express certain emotions, detailing the situation before providing their response. Nicole's reaction to an evaluation of her presentation, for example, was to describe the situation,

note the comments made, and reply with, "Ummm, I did ask you those very questions? Hello? Where were you?...was he listening?" (W; Nov. 2004). Lauren's most vehement expression of disgust was an "ugh!"; Davis was more likely to offer up "damn it" or "fuck" to convey his irritation. He often did so in a humorous manner, however, as when he countered Shannon's frustration with teaching, expressed in her comment "The entire MAT program should be devoted to telling people they are going to suck their first year…NO wonder so many people quit after their first year, it's a whole year of sucking" (W; Nov. 2004), with the comment, "well i think the professors that think we suck and do suck and have sucked are the ones that do not know us very well."

The weblogs conveyed a range of emotions and affective concerns throughout the study, supporting Mills and Satterthwait's (2000) statement that pre-service teachers enter teacher preparation viewing teaching as "primarily a personal or emotional act" (p. 30). Kate especially revealed her incorporation of the affective dimensions of teaching in her weblog. As an ESL pre-service teacher, Kate taught in an elementary school classroom during the Fall 2004 semester. During that semester, her weblog revealed frustration with a student who referred to himself as "stupid," concern for a family of students who coped with an absent father and pleasure in working with a dedicated fellow teacher. In the Spring 2005 semester, Kate moved to a high school classroom with its own set of emotional dimensions. She now related the joy of assisting her students to successfully complete a class project, the pleasure of speaking with a student in his native Farsi and the difficulty of preparing lesson plans to coincide with students' learning needs.

The Weblog as Intentional Inquiry

One of the most prevalent categories identified in the pre-service teachers' weblog entries was that of educational question and critique. Their weblog postings introduced a

number of difficult educational topics, ranging from a general critique of public schooling to a specific question about a cooperating teacher's classroom management. Through these weblog entries, the pre-service teachers made an intentional effort to interrogate their experiences with teaching and learning, often turning to their practical theory to make meaning of these new situations.

Qualities of Good Teaching. The pre-service teachers' weblog entries often critiqued the qualities of good teaching, at both the university and secondary level. As developing teachers themselves, they revealed an understandable interest in what constituted good teaching, expecting their professors and mentor teachers to model the methods and dispositions expected of them. Disagreement between expectation and experience resulted in interesting weblog postings.

Nicole wrote of her difficulty staying awake in class when only one teaching style was used; she noted that the pre-service teachers were taught "the importance of using different teaching methods in order to hold students' attention," yet the professor lectured for the majority of the period (W; Oct. 2004). Shannon also disagreed with the predominant use of a particular teaching method – in her situation, whole-class discussion – explaining, "I shouldn't be forced into a position where the only way to share my opinion is with the whole class, I should be able to discuss it one on one with a friend of mine or in small comfortable groups where my comment isn't thrown out there to be taken the wrong way" (W; Oct. 2004).

The relationship between teacher and student was another aspect of good teaching discussed in pre-service teachers' weblogs. Eric found that he often disagreed with his mentor teacher's style in the classroom, feeling that her approach to students in the classroom was opposite to his own (W; Oct. 2004). He related a specific instance in which his mentor teacher prevented a native Spanish-speaking student from conversing in Spanish with a friend before

class had begun (W; Nov. 2004). Eric found nothing offensive with the student speaking Spanish in a moment of free time and objected to what he interpreted as a denial of the student's culture and native language. Looking back at the situation, he asked, "She is supposed to be a model for me to pattern my teaching after, right? Am I looking at this all wrong?"

One of the most vehement posts related to teaching came from Davis, in response to a professor pulling him aside to express concern over his academic progress. Davis, clearly upset, wrote,

> I'm not really sure what [the professor] was trying to accomplish here. Get to know me more personally? Act like [the professor] cares? Maybe [the professor] does care, but damn it, that is not how you show it! By telling someone you think they're having problems. [This professor's] never talked to me before, so this was really the first thing [the professor's] said to me. (W; Nov. 2004)

Abby, responding to Davis' post, commented, "I understand your negativity, but it IS necessary to see that this professor or any educator for that matter cares for the well-being of their students." Her rationale prompted Davis to offer additional explanation:

> Agreed, except there was no prior indication of poor performance, nor would [the professor] even have a way of determining subpar performance on this particular assignment. I only disagreed with [being singled] out for an arbitrary reason to deliver negative type feedback…There has been no prior evidence of…caring for me…But that is what I learned from this experience: you can't fake caring for someone. If you try to, you only serve to alienate that person even more. (W; Nov. 2004)

A week later, Davis returned to the subject in his weblog, summing up his view of good teaching with the following: "It seems like teachers that just act like normal, decent human beings have the best chance at reaching students...Don't be a dick. They don't teach us that in so many words, but maybe they should" (W; Nov. 2004).

Although Colin did not maintain a weblog, his interviews revealed the same concern for teaching and learning issues as evidenced by his blogging pre-service teachers. Even without depiction in a weblog, Colin's student teaching experience spoke to the importance of good

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teaching relationships. Colin's student teaching placed him with a mentor teacher whose style differed from his own. Although he agreed that they both had a "strict" style of teaching, he saw his mentor as "very, very strict, a big disciplinarian…the students don't really want to talk a whole lot or open up very much when she's around because she's kind of overbearing" (I; Jan. 2005). Colin preferred a less structured classroom, where student discussion was supported and students were encouraged to work through difficult material together. He believed his mentor teacher's style decreased student confidence, and he struggled to understand her approach, explaining, "I get the feeling that that's not how my teacher used to be, because I hear so many great things about her, and she does do a lot in the school and she's very active. I think she's getting kind of tired; she's been teaching for a long time."

Working with the students. The pre-service teachers' weblogs also revealed the difference between their expectations of and their experiences with the students in their classrooms. Much like good teaching, the pre-service teachers found themselves questioning their understanding of student action and behavior. After years of experience as students themselves, they struggled to integrate their prior experiences with motivation and achievement to the day-to-day experience of working with adolescents. Personal practical theory supported their expectations of students but did not prepare them for the actual situation of working with those students, what Feiman-Nemser and Buchmann (1985) call the "familiarity pitfall" (p. 56). As Feiman-Nemser (2001) accurately states, "Taken-for-granted beliefs may mislead prospective teachers into thinking they know more about teaching than they actually do" (p. 1016).

Working with students unlike themselves was a recurrent element in the pre-service teachers' weblog entries. Abby expressed her first thoughts about her students concisely when she wrote, "They don't look like me; they don't sound like me, and they probably don't think like me" (W; Sep. 2004). A natural assumption is that Abby, a white female, was facing a

predominantly minority classroom, reacting to the racial and ethnic difference she saw before her; as she explained to me, however, she was surprised to face a classroom of low-income and rural students with little aspiration to attend college. Lauren also faced students unlike herself, returning to the topic of students "not caring about school" several times in her weblog. Relating that education was valued highly in her own home (W; Nov. 2004), she was discouraged by students who did not appear to care about learning the material and did not attempt to excel in their education.

The adolescent students' seeming apathy toward achievement was a point many of the pre-service teachers addressed in their weblog postings. In one of his few entries, Colin found it hard to believe that 43 of 121 students were failing as he began his classroom observation, noting his belief that the class was not difficult and the students appeared capable of making As (W; Oct. 2004). After grading one class set of tests early in the year, Nicole expressed amazement that her future students' grades ranged from a 22 to a 93 and wondered if they were learning any of the material (W; Oct. 2004). During student teaching, the pre-service teachers' critiques became stronger, highlighting their frustration with their students' apparent lack of motivation. Shannon expressed the disappointment shared by several of her peers:

> If I give them any problems they've never seen before, they shut down and don't want to try. They give up. I thought teaching was about giving students the understanding so that they can use their knowledge to solve problems. Nope, teaching is about writing the perfect flow of problems so that students don't have to think, they just have to copy what you did before. (W; March 2005)

Beyond their frustrations, the pre-service teachers valued the development of relationships with students in their classrooms. Forming that connection was very important to Eric, who explained, "I want to connect with the students, but not force it…That's what my whole teaching philosophy is based on" (W; Oct. 2004). Abby (W; Nov. 2004) and Kate (W; Nov. 2004), relating relationships to recent readings on Nel Noddings' (1992) definition of care,

juxtaposed their belief in the importance of caring for students to the care they saw lacking in their schools.

Specific students came to play an important role in the pre-service teachers' student teaching experiences. During her student teaching, Nicole often mentioned how much she enjoyed working with a class of ESL science students, explaining, "These students actually seem the most engaged of all my classes…They're also polite, humorous, and have an endearing sense of community among them…I love their inquisitiveness (even though they often stump me)" (W; March 2005). Abby was devastated when one of her 16-year-old students dropped out of school, stating simply, "I feel like someone has died" (W; Nov. 2004). Later, when I asked Abby to elaborate on this particular event, she explained, "I just wish that I could have done more… he's just gone and I won't have that chance to connect with him or help him" (I; Dec. 2004). Again, although Colin did not maintain a weblog, he echoed his fellow pre-service teachers' positive estimation of relationships. In his final interview, Colin spoke of tutoring a senior student failing algebra, a class needed for graduation, despite his position as her Civics teacher (I; June 2005).

Kate's experiences with students differed from her fellow participants in that ESL pre-service teachers divide their student teaching between elementary school in the fall semester and secondary school in the spring semester. In the fall, Kate wrote often of particular elementary students, detailing their difficult home lives and their struggles with academic work, and her feelings of helplessness to do more for them. In one post, she detailed the adversities of these real students:

> Fernando [comes from] a family of ten kids whose dad is a long-distance trucker and whose mom is overwhelmed because she's stuck at home with ten kids, ages 10th grade to 1 year…Concha came into class with her hair unkempt, looking defiant as usual. Josue was quiet, as usual, but sad. Then Jaime came in and said, out of the blue, "I got hit this morning."…I have rarely felt so much frustration or powerlessness in my life. (W; Nov. 2004)

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In the spring semester, Kate was placed at a local high school, where she more often mentioned her students as a group, with comments such as "I was very proud of my four biology students today because they actually got some good work done" (W; Jan 2005). The relationships formed with both elementary and secondary students, however, were clearly valued by Kate in her role as a student teacher.

The pre-service teachers often saw their experiences with their students as an illustration of the "theory versus practice" argument found in schools of education: Would the theory taught in graduate school hold up in a real classroom? (Tom, 1997). Nicole questioned her ability to integrate theoretical approaches to classroom instruction with students in her Earth Science class (W; Feb. 2005); Davis considered the classroom management techniques learned at the university incompatible with the actual students in his classroom (W; Oct. 2004). After reading several articles on the impact of race in schools, Lauren was left with several questions, finding it difficult to apply the theory she had just learned with the practice she believed she knew (W; Nov. 2004). Even Kate, who demonstrated more enthusiasm for educational theories than many of her peers, evinced some irritation with the lack of applicability at the beginning of the semester: "Can't we just get through all the theory and start teaching already? I feel like then we might have a much better idea of exactly how these theories play out than just using our 3 weeks of limited observation" (W; Oct. 004).

The Weblog as Individual Exploration

A major category identified in the pre-service teachers' weblogs was that of individual exploration. Weblog postings revealed the examination pre-service teachers turned on their own experiences, as they documented personal concerns and individual growth. Often motivated by

classroom happenings, the pre-service teachers' exploration concentrated on the self, as they assimilated new understandings and addressed new issues.

The Self as Teacher. Not surprisingly for those in a teacher education program, the pre-service teachers often addressed their development as teachers in their weblog entries. Much like the outward inquiry into good teaching, the pre-service teachers turned inward to explore the strengths and weaknesses of their own teaching. Some realizations came through observation of teaching, others while teaching themselves; regardless of the motivating factor, however, the practical theory each pre-service teacher brought to teacher preparation was challenged through personal experience and insight (Feiman-Nemser, 2001).

Individual teaching style was a recurring topic for the pre-service teachers; through experiences in their university and public school classrooms, they identified likes and dislikes that would follow them into their own classrooms. Several pre-service teachers mentioned their dislike of the lecture format often found in their university classrooms. Shannon related the boredom with her high school classes, preferring instead to leave at every possible opportunity to roam the halls (W; Oct. 2005). Davis shared his declining motivation to complete coursework, sharing his assessment that "writing comes easy and natural for some people but it's kinda of painful for me…All these papers we have to write even though they are usually only about 5 pages long are torture. I sit and wonder how in the hell I'm going to come up with that many words" (W; Nov. 2004). Incorporating images of pomegranates, frogs and school buildings into her weblog postings, Kate identified herself as a visual learner, predicting that her classroom would be filled with "colorful and creative things" (W; Nov. 2004). Although determining personal learning preferences, the pre-service teachers were also negotiating how to best work with students, realizing that their personal preferences in the classroom might also translate to student's preferences for learning.

Nicole's approach to the development of her personal teaching style reveals a gradual movement from traditional teaching methods to more student-centered methods. In the fall semester, Nicole admitted that she was "far too stubborn" to admit defeat with her students and would "try numerous teaching styles" to support their learning (W; Oct. 2004). When she began her student teaching, she had the opportunity to evaluate her approach to student learning and found herself in agreement with a more constructivist classroom:

> I'm beginning to realize that I actually don't mind it too much if a class is active and talkative and busy…I tend to get bored on days where the students are sitting quietly at their desks taking notes as the teacher lectures or completing assignments. I love their questions and interjections, even if they quickly divert away from the main objectives of the day...I guess I'd rather entertain mildly irrelevant questions than have to wake up slumbering students. (W; Jan. 2005)

Later in the semester, Nicole related her inclination to avoid note-taking exercises and bookwork with her students, as she also found the activities "incredibly dull" (W; Feb. 2005). She expanded on this idea, when she wrote, "I've realized that I like giving one-on-one help to my students much more than I enjoy lecturing in front of a sea of mildly-interested faces…I can empathize with their confusion and I love helping to erase it."

Another issue raised numerous times over the course of the study was the search for a balance in life as a teacher. Recognizing the demands required of a teacher, the pre-service teachers expressed concern that their future lives as teacher might be incompatible with their existing personal lives, that their current feelings of being overwhelmed would not dissipate. Kate's reaction to difficult student situations led her to question the personal price of teaching, explaining, "I just don't know how I can do this without getting hurt" (W; Nov. 2004). Shannon struggled to accept her disappointment with a difficult teaching experience (W; March 2005), while Davis tried to deal with the personal nature of student resistance (W; Feb. 2005). Kate wrote of feeling consumed by teaching (W; April 2005) and Nicole agreed in a comment, sharing

that she "actually thought it would have settled down a bit by now, but there's always more to be done."

The balance between work and life was an especially significant issue for Zach. Although not recorded in a weblog, his struggle with this issue echoed those concerns expressed by his peers in their postings. During his first interview, Zach related his concern over the isolation he saw in educators' lives: "This past week, I really had some revelations about teaching…I wanted to coach and I wanted to teach and I'm still looking forward to doing all those things but then I realize there are other things besides teaching" (I; Jan. 2005). He went on to describe how he noticed so many unmarried teachers and saw this as a symptom of a profession that required too much from its people. Although extremely apologetic, he also pointed out my own unmarried status as an educator.

I followed up on this issue with Zach at the end of the study, after he was employed and interacting with his fellow teachers. He was somewhat relieved at encountering a number of married teachers at his new school but continued to express his reservations about the demands placed upon teachers: "I wouldn't say necessarily that they let their lives revolve around teaching but when do you have the time is my big question; especially as a first year teacher, as a second year teacher, I'll be busy" (I; June 2005).

Although their growth as teachers had difficult moments, the pre-service teachers also reported numerous positive experiences. From general happiness over a good lesson – "nothing that compares to the feeling of a successful lesson plan" (Kate; W; March 2005) – to pleasure in working with the students – "I totally enjoyed seeing the Biology students' reactions as they checked their experiments today" (Nicole; W; Feb. 2005) – these experiences helped to confirm their decision to become teachers. Positive experiences outside the classroom also served as support: Kate having a pleasant conversation with a student's sibling on a community sidewalk

(W; April 2005); Nicole being recognized and greeted by a student outside a movie theater (W; Nov. 2004); Davis discussing cars with a student during a bus ride to school (W; Oct. 2004).

Dealing with Doubts. Good experiences in the classroom, however, did not preclude doubts about the decision to teach. As noted earlier, the pre-service teachers expressed concern with finding a balance in their lives as teachers. Sometimes, the issue was not balance, however, but longevity. As Kate wrote after a particularly trying day, "I have no question that I want to teach, but I just wonder how long I am going to last" (W; Nov. 2004). Shannon also expressed interest in moving outside the classroom, believing that "something needs to change on a larger scale and I want to be at least a part of that change on some level" (W; Oct. 2004); in personal conversation, she questioned whether that change would come by teaching at the high school level or by returning to graduate school for an advanced degree. Even without a weblog, Zach shared that he was already considering the possibility of a future in administration as he exited the program (I; June 2005).

On difficult days, the pre-service teachers found it hard to suppress their doubts about education, in general, and their future as teachers, in particular. Lauren expressed her discouragement after a classroom observation in which she saw little student engagement (W; Nov. 2004); she also took issue with the lack of parental involvement and concern contributing to poor student achievement (W; Oct. 2004). Following the third theft of personal items, Nicole felt teaching was more an experience of "mere survival" than "enjoyment" (W; March 2005); Eric also admitted to "getting a little jaded" after having an expensive pen stolen (I; Feb. 2005).

While the relationships formed with students stood out as positive experiences, these negative experiences added to the doubts already held by the pre-service teachers. A teaching placement with challenging students often left Davis frustrated. He correlated a bad day with these students to his lack of authority in the classroom (W; Feb. 2005), wondering whether his

mentor teacher's advice to express his frustration was a good idea while admitting, "I'm starting to think that I don't have much of an alternative" (W; Feb. 2005). Abby expressed support for Davis' situation in a comment, relating, "Today, I went off on one of my classes. I [was] forced into doing it." The following day, Davis related that "today I just went off. I hated having to do it, but maybe it's what they need" (W; Feb. 2005).

In general, Kate was fairly positive about her interactions with students but she too faced doubts when moving from her fall elementary placement to her spring high school placement. Speaking honestly, she said, "I am terrified to go to the high school next week" (W; Dec. 2004), following with, "I have no clue how to teach high school…I forgot how hormonal students are at that age, and how lost." Nicole, also generally positive in her outlook, expressed her doubts at managing energetic students: "My fourth period is a circus. A playground…I hate that I'm not mean enough yet…I wish I could fast forward my life to…when I have this business under my belt" (W; Feb. 2005). Both pre-service teachers found some comfort in their particular situations, however. After beginning her student teaching at the high school, Kate discovered that "all the students seem nice and curious…They're just big kids, and now that I've seen them, I feel like I can handle them" (W; Jan. 2005). Nicole addressed her doubts in the same entry when she continued with, "On second thought, a seasoned teacher recently told me that if I ever get to the point where I think I've 'arrived' at teaching, I've probably gone stagnant or burned out. I should just get over it, I guess, and try to do the best I can. I'm better than I was last week (I hope), and that's about all I can say…Tomorrow will be better" (W; Feb. 2005).

EXCERPT 5

From the researcher's weblog: December 2004

One little sentence from Polly nicely situates the slurry of thoughts that has been percolating in my mind for the last few days: "I believe that time is one of the most essential elements for reflective teaching." Time is definitely essential and, as the literature continues to illuminate, the lack of time is a key factor in the lack of reflection among practicing teachers. There's nothing new in that observation; time is sorely lacking in most people's lives, regardless of profession. Teaching, however, is a profession that requires "time" as a condition of success: teachers need more time to interact with students, to teach content, to grade papers, to plan lessons, to create community, to develop professionally and – yes – to reflect.

So, if we know this, why are teachers faced with less and less time to concentrate on the important components of their job? Putting aside the intercom interruptions and the pep rallies and the mandated testing and the paperwork – why are teachers provided with so little time to reflect, either individually or communally? Why isn't time built into the day, in some form or fashion, to give teachers time to **think***?*

Perhaps – and this is just a suggestion – we don't actually want our teachers to reflect. "Why," you say, "that makes no sense! Reflection is one of the key components of teacher education; programs across the US teach reflection, read about reflection, encourage reflection, study reflection. You're just talking crazy, woman!" Okay, but consider this: reflection is an agent of change. By truly reflecting about a situation, we are attempting to both understand and change. Dewey likened reflection to the scientific process: analysis and action must follow description for reflection to take place. So, action is implicitly tied to the reflective act. In reflecting, a teacher is really asking the question, "Why" - why did this happen? why did I react this way? why is this acceptable? why

does this need to change? So, reflection leads to action leads to change.

But schools don't like change. We're talking about a conserving institution, one that has stayed remarkably similar since its inception in the US. Teachers have one role, students another, and ne'er the twain shall meet. If teachers start thinking about things – using reflection as a step toward questioning the status quo – they might realize that much needs changing. They might even attempt to make those changes themselves, god forbid.

By appropriating the simple component of time, the institution manages to maintain itself. Even though most teachers may realize much needs to change, they do so without engaging with those fleeting thoughts; it's all they can do to manage an overcrowded classroom in an underfunded school. Teachers who don't have time to think don't have time to act, and without action from teachers, schools cannot change for the better.

CHAPTER V:
PRE-SERVICE TEACHERS INCORPORATING WEBLOGS
INTO REFLECTIVE PRACTIVE

"*Don't be a dick. They don't teach us that in so many words, but maybe they should.*"
~Davis

Pre-service teachers often see a division between the information they learn at the

university as students and the experience they gain in the schools as student teachers (Feiman-

Nemser & Buchmann, 1985; McIntyre, 1993). Viewing the different locations as distinct places

with specific knowledge, pre-service teachers may not apply the information learned in one

situation to a different situation. Reflection is one practice that struggles to bridge this

dichotomy. Teacher preparation programs understand the value of reflective practitioners and

strive to inculcate pre-service teachers with the importance of remaining reflective once in the

classroom. To that end, teacher educators must strive to create authentic connections between

the two. Taking advantage of reflection's flexibility allows teacher educators to provide

numerous avenues of reflective thinking to pre-service teachers.

A discussion on reflection during the Fall 2004 group meeting illustrates quite well the

divide between university sponsored and individually initiated reflection. When asked to define

reflection, the pre-service teachers supplied their own understanding of the term rather than

offering definitions provided by experts. Shannon responded with, "Thinking about why you do

things, how that impacts what you're doing and how that affects other people," while Nicole

explained, "You're looking back at what you've done in order that you can do things differently

or in a certain way in the future, in order to affect what you do in the future." Amid much laughter, Colin offered, "You have to write three to five pages;" others quickly added "double-spaced" and "in 12-point font."

As I looked back at the transcript of this group discussion, I was struck by the two representations of reflection provided by the pre-service teachers. They offer reflection as a combination of serious thought and positive change to general agreement; at the same time, they equate reflection with specific pagination and particular fonts to general amusement: both representations are apparently understood and accepted. As a former pre-service teacher, I too see the humor in such a joke but, as a future teacher educator, I also see the danger. If pre-service teachers equate reflection with a specific format in a specific place, they seem likely to leave the act of reflection at the university when they move on to their individual classrooms.

My review of this transcript also prompted an additional thought. The pre-service teachers' discussion of reflection revealed an understanding of reflection that was tempered by individual approaches. In other words, these pre-service teachers presented their understanding of reflection in informal and individually meaningful language rather than through precise definitions or quotations from specific thinkers. Quite frankly, I was intrigued by this. They appeared to understand the basic concepts of reflection and their ability to explain reflection in their own words pointed toward an internalization of those concepts. Would this understanding of reflection be apparent in their weblogs? Would this new medium allow them to apply their individual understanding of reflection?

My interest did not lie in categorizing their comprehension of reflection before and after their weblog use. Rather, I was intrigued by how they might apply and reveal their understanding of reflection through the medium of the weblog. My interest in what these pre-service teachers might offer regarding reflective practice carried me through multiple readings of

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their weblog postings and their interviews transcripts; my hours of analysis were rewarded with a fresh perspective on reflection as offered by these pre-service teachers. Drawing upon their practical theory to make sense of their teaching and learning experiences, the pre-service teachers crafted a different approach to reflection. Unscripted, individually determined, unpolished, temporal, affective – through their weblogs, these pre-service teachers provided an alternative form of reflective thinking co-existing within the established structures of reflective practice. I have termed this individualized articulation informal reflection.

Informal Reflection

Through their writings on reflective practice, John Dewey (1910/1997, 1933/1960) and Donald Schön (1983, 1987) provide the foundation needed to situate informal reflection. Both validate the process of metacognition; both affirm the need for communal interaction during reflection. Although Schön accepts a more spontaneous approach to reflection, both Dewey and Schön recognize the need for practitioners to engage in some form of reflective thinking.

Dewey presents reflection as a continuous process driven by the inquiry found in scientific study. Through "active, persistent, and careful consideration" (1933/1960, p. 9) the individual creates a deeper understanding of experience; as such, this deeper understanding allows for the formation and re-formation of one's practical theory. The interactions found in community support reflective thinking, as explaining one's ideas for others' comprehension reveals both the strengths and the weaknesses in individual thought. Through this communal interaction, practical theory is challenged, affirmed and altered. Lastly, Dewey's identification of the personal attitudes of open-mindedness, whole-heartedness and responsibility for successful reflection recognizes the importance of the affective dimension in reflective thinking. Rather

than divorcing the affective from the intellectual, Dewey saw their coexistence as necessary for the individual's personal and professional growth.

Schön located reflection not in scientific inquiry but in individual knowing, placing a greater emphasis on the practical theory brought to the situation. Using reflection in "messy, indeterminate situations" (1987, p. 4), the individual draws on personal, as well as professional, knowledge to understand both the experience and the actions embedded in the experience. Like Dewey, Schön recognized the benefits of communal interaction for reflective thinking, noting that the teacher "needs to communicate her private puzzles and insights, to test them against the views of her peers" (1983, p. 333). Practical theory, in Schön's representation of reflection, requires scrutiny from outside sources. Also like Dewey, Schön accepted the place of emotion in reflection; unlike Dewey, however, Schön presented reflection as a particularly emotional undertaking. The individual is warranted in feeling "surprise, puzzlement, or confusion" (1983, p. 68) while engaging in reflective thinking.

Drawing upon these two seminal presentations of reflection provides the underpinning of informal reflection. Practical theory, structure, personal expression and communal interaction, the four elements supporting informal reflection, are represented in Figure 2.
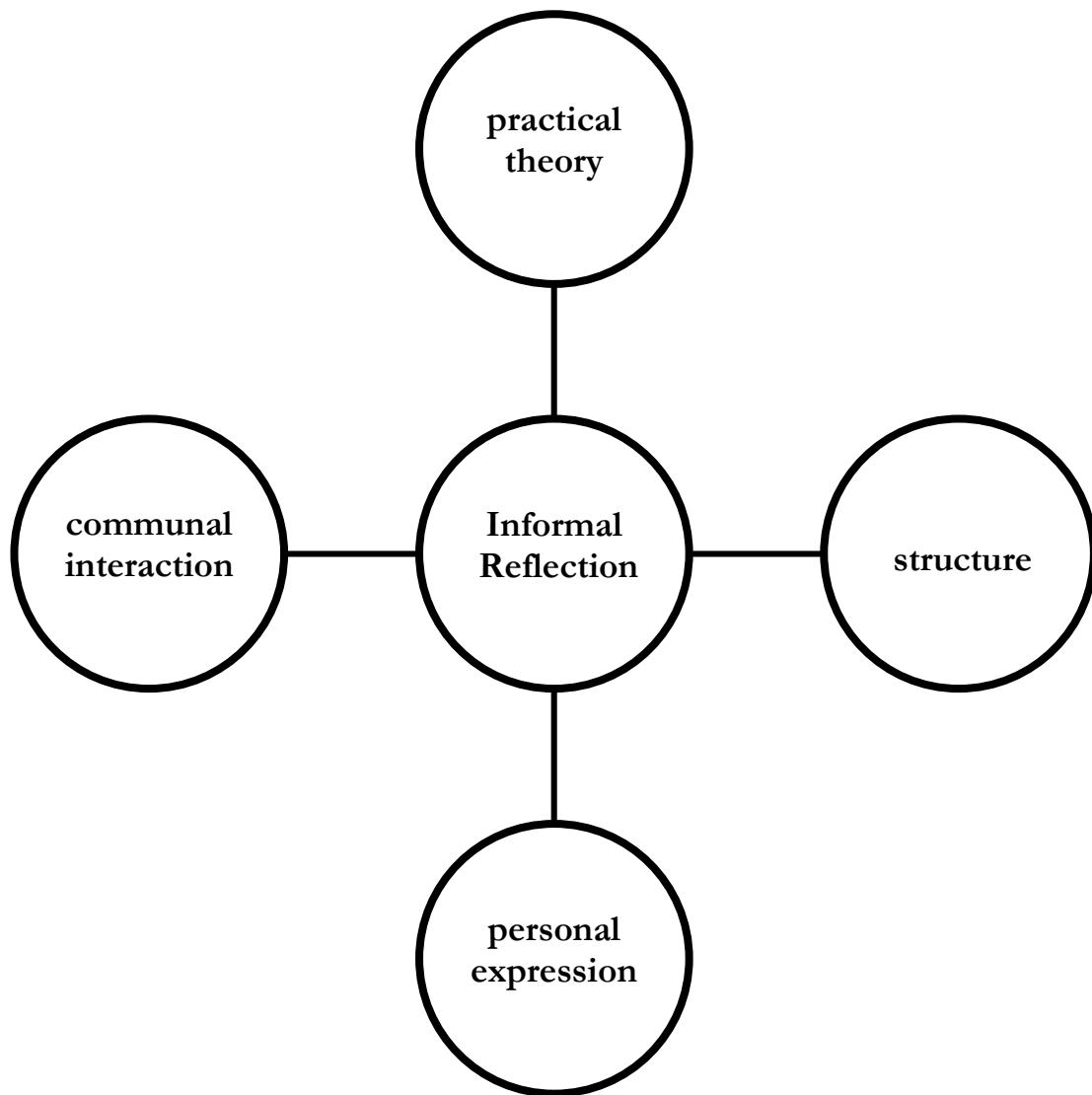
Figure 2: Elements of Informal Reflection

Practical Theory

      The first element of informal reflection is practical theory. Though neither Dewey nor

Schön used the term "practical theory" explicitly, their emphasis on experience and personal

development speaks to the importance of the individual's personal system of knowledge (Handal

& Lauvas, 1987). By addressing both what the individual brings to reflection, as well as the

change inherent through reflection, Dewey and Schön recognized the place of practical theory in

reflective thinking. Informal reflection invites the individually crafted knowledge that pre-service teachers bring to their teacher preparation. Because no topics are assigned in informal reflection, pre-service teachers draw upon topics and issues that are personally relevant, inviting pre-service teachers to include the understandings encapsulated in their practical theory.

By addressing personally relevant topics in their weblogs, pre-service teachers are able to include their practical theory, drawing upon past experiences to understand present situations. As noted previously, the thoughts and understandings associated with previous experiences continue to influence the thoughts and understandings related to teaching (Feiman-Nemser & Buchmann, 1985). By tapping into their personal theory, pre-service teachers provide explanations and make connections essential to their growth as teachers.

Pre-service teachers' practical theory is invoked as they determine their individual approach to teaching. Nicole frequently reflected on her understanding of teaching in weblog postings, whether estimating her reaction to student apathy – "I predict that I am far too stubborn and maybe prone to self-blame, and will probably try numerous teaching styles in desperation before I yield to an attitude of indifference" (W; Oct. 2004) – or anticipating her response to classroom activity – "I'm beginning to realize that I actually don't mind it too much if a class is active and talkative and busy…I tend to get bored on days where the students are sitting quietly at their desks taking notes as the teacher lectures or completing assignments" (W; Jan. 2005).

Shannon also related her understanding of the present to her past experiences. While sympathizing with students who struggled in high school, Shannon still expected students to get decent grades; in her experience, admittance to college was the ultimate goal, regardless of what was learned in high school (W; Nov. 2004). Shannon's student teaching was a difficult experience for her; her weblog entries often reveal her frustration. By relying on her practical

theory, as in the example below, Shannon made sense of a frustrating situation and attempted to move forward:

> I learned something from today. At first I was really mad at myself for making a mistake. After reading over this blog, I realize that the problem was not the mistake itself, but the recovery from the mistake...In a basketball game, you don't hang your head if you miss a three pointer. You think about how to make your shot the next time. [You] move on and finish the rest of the game. Next time I will do better. (W; April 2005)

Practical theory also allows pre-service teachers to realize the disconnect between their past and present experiences with teaching and learning. Over several days in November 2004, Lauren struggled to understand her students' apparent apathy toward school. Her entries echo her frustration, as she questions whether they care about their education and what they value in life. By relying on her practical theory, Lauren found it difficult to understand her students; as she revealed in her weblog, she valued education very highly: "I was brought up in a house that pushed education. My momma is a teacher, my grandfather on one side was a teacher, and my grandma on the other side was a teacher. I have been taught that education is essential" (W; Nov. 2004). Only by tempering the understanding gained from her practical theory could Lauren move forward in separating her experience from that of her students: "I think that we have taught some students that no matter what they do they can't excell which limits all of their possibilities" (W; Nov. 2004).

Abby also could not connect her present experience to the understanding supported by her practical theory. Looking around her classroom, she noted early in her student teaching, "They don't look like me; they don't sound like me, and they probably don't think like me. Aah, the challenge of a city gal in a rural setting" (W; Sept. 29, 2004). Abby's past schooling in a diverse semi-urban setting did not provide her with a reference point to understand the homogenous rural setting in which she now taught. Like Lauren, her initial reaction to the students in her new classroom was one of difference and challenge.

The second element supporting informal reflection is structure. Here, Dewey and Schön divide, with Dewey advocating a process similar to that of scientific inquiry and Schön dismissing a categorical process to encourage a more personal inquiry. Through Dewey (1933/1960), reflective practice is presented as following deliberate, continuous steps; the reflective individual moves from the experience itself to a description of the experience to an analysis of the experience, culminating in intelligent action or experimentation based on the previous analysis. Modern examples of reflection often borrow from Dewey's process. Yost, Sentner and Forlenza-Bailey (2000), for example, offer the reflective steps of describe, inform, deconstruct and confront. Schön (1987) considered a solely structured approach to reflection confining, one that dismissed the importance of unquantifiable phenomena to the professional's reflective decision making. With professional practice "complex, unstable, uncertain, and conflictual" (1987, p. 12), artistry becomes as important an element in reflective decision making as science and research.

Informal reflection rests on a less structured approach to reflection, rather than following a pre-determined process, predicated on specific steps or given questions. The guiding structure of the formal reflective process is found in informal reflection. Pre-service teachers draw upon their current experience, often choosing to describe the situation in detail; they analyze the experience as they question the event, draw parallels to past experiences, or attempt to provide an explanation for a certain outcome. They also take action when they resolve to change personal habits or outline the steps needed to alter a classroom situation.

Informal reflection, however, does not require the strict obedience to formal reflection's guiding structure. Pre-service teachers may describe a negative experience but take no steps to rectify the situation at that moment. Alternatively, pre-service teachers may describe an event

one day, mentioning the event several days later when describing the action taken to resolve the situation. Additionally, pre-service teachers may introduce a situation in a weblog entry but complete their thoughts on the subject in another medium: a conversation, a class discussion, a course assignment.

Nicole provides an example of this less structured approach. In her weblog, she shared her discomfort at dealing more harshly with a student than she intended, writing, "I later had the sinking realization that the student I had previously interrogated happens to be the one who cannot read. This explains why she didn't answer [my] questions about her group members – she didn't know who they were, because she couldn't read her group assignment" (W; Dec. 2004). Nicole did not return to this issue in her weblog; instead, she mentioned during her interview looking for resources at the school that would benefit this particular student. Likewise, a pre-service teacher may list numerous questions concerning teaching and learning but fail to return to these questions again. Eric also illustrates this approach, offering several difficult questions in his last weblog entry: "Am I doing enough? Am I failing these students? Should I be bilingual?" (W; March 2005). As it was his last entry of the study, however, he did not have an opportunity to offer any answers to his questions in his weblog. An informal approach to reflection accepts gaps and variations in the reflective structure as pre-service teachers become accustomed to thinking reflectively.

Approaching reflection as a heuristic device, then, diminishes the significance of steps and hierarchies while maintaining the importance of meaning making. Each pre-service teacher managed reflection differently within the weblog. Lauren explored the same topic – student apathy toward education – over a week in November 2004; Eric repeatedly discussed his placement with a specific mentor teacher throughout the Fall 2004 semester. Both provided some analysis on their chosen topic but offered more questions than answers. Davis also

examined a recurrent topic, that of student engagement, in his weblog. Throughout his student teaching, he questioned his teaching methods and students' reactions, noting what seemed to work and what did not.

Kate's weblog included copious amounts of description and analysis on teaching and learning, with predictions for her future actions as a practicing teacher. She also included efforts to understand herself, as she reconciled becoming a teacher with her past expectations. As she explained

> I'm still just trying to come to terms with my life as a woman, and as a woman teacher (very stereotypical, non-PC job for a woman, which would have been looked down upon in my former field). But it's not a bad thing!...There is nothing wrong with enjoying "domestic" tasks or deciding to become a teacher…I think I have surprised myself by realizing that I can be content and fulfilled, and moreover, called into teaching, in a stereotypical women's role. After all, who is to say that just because a thing is stereotyped, it is bad?...I just feel like I am/am going to be growing a lot during this coming year, mentally and philosophically. (W; Dec. 2004)

Nicole also included analysis and questions throughout her weblog postings, many of them leading to decisions about her current teaching. Realizing she had "overloaded" her students with too much activity during one class period, Nicole noted, "I probably should have started out by easing them into a new schedule slowly, not adding too many new things at once. I had to smile inwardly when I overhead one student say, 'Is this, like, some modern way of teaching?' No, dear, it's more like a desperate attempt to keep you all awake" (W; Feb. 2005).

Personal Expression

Personal expression, the third element in informal reflection, is supported by both Dewey and Schön. The affective domain for Dewey (1930/1966) is addressed in his specific attitudes of whole-heartedness, open-mindedness and responsibility, the emotive qualities needed to support successful reflection. Without these attitudes, the individual could not truly

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engage in meaningful reflection. Schön (1987) also recognizes the importance of the affective domain through his acceptance of emotion and artistry in reflection and in practice. By situating the emotion already present in teacher preparation, informal reflection invites discussion of personally meaningful elements into a constructive environment. Personal expression in reflective thinking validates the affective domain that pre-service teachers bring to their preparation and so often lose during their university preparation (Mills & Satterthwait, 2000). Personal expression also supports the interpersonal and intrapersonal dimensions of teaching, allowing pre-service teachers to investigate the emotions that naturally emerge while working with others.

As individual forums, weblogs invite the inclusion of personal expressiveness; with license to express a range of emotions or discuss a variety of situations, pre-service teachers easily bring the affective domain into their reflective thinking. Blood (2002a) supports the place of emotion in weblogs, stating that "passion is the purpose of the weblog…The things you are sure about, the things you can't figure out, and the things you find interesting – all are colored by the extent to which you care; if you don't care, you might as well not publish at all" (Blooda, 2002, p. 131).

The pre-service teachers expressed a wide range of emotions throughout the study in their weblog postings. Kate, the most prolific blogger, expressed happiness over small pleasures, anger about a student's treatment, irritation with a teaching situation, excitement over her upcoming graduation. She even admitted to being "secretly happy that my student teaching ends next Friday" (W; April 2005). Davis was quite comfortable communicating his frustrations with graduate school and teaching, as well as baseball and inclement weather, in rather expressive language; the phrase "like the effects of eating a razor filled burrito, and drinking a whole bottle of ex-lax" was one of his more creative efforts to convey his frustration (W; Nov.

2004). Shannon may have lacked Davis' creativity, but she, too, did not hesitate to share her

frustrations, often with her own performance, captured in the simple statement "I suck" (W;

March 2005). Nicole's weblog conveyed her own quiet sense of humor. She frequently related

funny stories about her students or laughed at her own teaching predicaments, which were often

one and the same, as exemplified by this story:

> I broke the unspoken rule today & laughed at the students. They kept
> interjecting Dr. H's lecture with comments & questions, mostly related, but V.
> offered at one point, "I already knew that [because] I took this class last year,
> before I got kicked out." So, of course, someone asked her, "Why'd you get
> kicked out?" Her response, verbatim (I kid you not), "I almost cut someone's
> testicles off!" (W; Nov. 2004)

Emotion did not subtract from the meaningful questions and gained understandings

expressed by the pre-service teachers. Davis' extreme anger after an encounter with a professor

(W; Nov. 9, 2004) revealed the importance of student-teacher relationships to him; in

responding to comments on the situation, Davis clarified his position when he said, "But that is

what I learned from this experience: you can't fake caring for someone. If you try to, you only

serve to alienate that person even more." The relationship between teacher and student

evidently remained with Davis. On Nov. 16, he discussed the difficulty of being a role model

for students, while on Nov. 18, he simplified the key point for teachers to remember about

relationships in his usual blunt manner:

> I was talking to a fellow student the other day, and we were discussing the
> most important thing in teaching, and both came to the conclusion that not
> being a dick gets you about 90% of the way there...through my own school
> experiences, prior and current, it seems like teachers that just act like normal,
> decent human beings have the best chance at reaching students. Teaching
> strategies, lesson plans, all that stuff is great, but the fact is if the kids hate you
> they won't learn from you. I've been the same way in my own learning. If I hate
> a teacher I could give a crap what I do in his or her class. Sure maybe I'm
> shortchanging myself, but when a learning environment is bad who would feel
> like doing work? Whereas for teachers that I liked, or at least respected, I would
> feel bad about not doing work, or turning in something subpar, because I felt like
> they were doing their best, and it would be wrong for me to do anything less

than my best. I dunno, maybe that's simplifying things. Don't be a dick. They don't teach us that in so many words, but maybe they should.

Davis' choice of personal expression in the weblog was, in his words, "just the treatment of the topic" (I; June 2005). In his weblog, he was allowed to express himself as he chose, his writing often mimicking his emotions at the time. This informal and personal approach to reflection was opposed to the more formal and impersonal writing required of university-assigned reflection. As Davis explained about the difference between the two, "I wouldn't say something sucks, which is what I feel but I wouldn't say that if I were turning it in to [the professor]…I would word it a little more professionally, I guess."

Shannon's response to whether she would express herself the same way in a formal reflection was much more emphatic: "No way! No, I think that's the reason why [the weblog's] good, because it's more informal and you're willing to say anything and…you're willing to make yourself look whiny, whereas when you're writing your formal reflection, you…want to make yourself look perfect. Weblogs are kind of more practical" (I; June 2005).

Lauren also agreed that she drew a distinction between what was said in her weblog and what was said in class. She explained that she was often uncomfortable speaking up in her classes because she would "just be pounded" for expressing her different views (I; Dec. 2004). She even noted, "I think it's great to be able to talk to you because I can say it. I mean, if it were [a professor], I'd probably just sit here and answer what she wanted to hear. I'd probably say a little but not everything." As for her weblog, "I just thought it was just for me, so I said whatever I would have said; I wouldn't have turned that in for a paper" (I; June 2005). The personal expression supported through informal reflection and individual weblogs clearly allowed some pre-service teachers to explore topics and engage practical theory in ways that more formal reflective opportunities did not.

Both Dewey and Schön valued communal interaction, the last element supporting

informal reflection. Through interaction with others, the individual's experience is valued when

shared with those having similar or differing experiences; alternative meanings are offered and

new understandings are seen; and the individual gains support to engage in the often difficult

process of reflection. Schön (1987) also noted the importance of interacting with fellow

practitioners in the field, where those with more skill and experience can serve as "coaches" (p.

17) to those just entering the profession.

Community is a variable term in informal reflection. During teacher preparation,

"community" may indicate the literal grouping of people, usually pre-service teachers engaged in

face-to-face discussion, with mentor teachers and teacher educators taking part in that

conversation to varying degrees. When referring to an electronic environment, however,

"community" denotes a virtual group created by those who read and comment on other's

written thoughts. Such a community is open to anyone with a computer and access to the

Internet through its existence on the World Wide Web; physical location and time have little

bearing on who may take part in the communal discussion. By engaging with various others in

this virtual environment, pre-service teachers reveal the reflective thinking that forms their

practical theory and informs their practice to a wide community, perhaps more diverse than that

found in their teacher preparation. Interaction with these others allows for differing

perspectives and alternative interpretations, encouraging pre-service teachers to clarify their own

understanding as they gain new insight from the community at large.

Weblogs exist in a communal electronic environment, inviting different perspectives and

direct responses from a wide audience of potential readers. Blood (2002a) proposes that

awareness of an outside audience promotes better writing, encouraging the individual to explain

more fully, describe in more detail and support with more information, approaches that also benefit reflective thinking. Regardless of the real or imagined audience, however, the weblog exists for the benefit and interest of the individual; as such, the individual should "take advantage" of having such a space and "take the time to say what you mean" (Blood, 2002a, p. 70).

A sense of community was an important element of reflection to the pre-service teachers in this study. The idea of talking with others to reflect arose frequently in both individual and group interviews. In the final group interview, Shannon equated reflection with the importance of time spent talking to other people, with general agreement from the other pre-service teachers. Davis related the importance of communal interaction to the weblogs as well, commenting that "the blogs were way more interesting when people…responded." Abby explained in her final interview (I; June 2005) that she did not post to her weblog in the spring semester in part because of the lack of comments during the fall semester. Interaction with others was a crucial component for her; without it, she did not view the weblog as a viable use of her time.

During interviews, pre-service teachers did reveal their interest in reading others' weblogs, although there is no clear confirmation that they did so unless the individual left a comment on a particular weblog. For example, Davis, during his first interview, expressed interest in reading his fellow pre-service teachers' weblogs. Reviewing the comments on each weblog, however, I can only confirm that Davis read weblogs maintained by Kate, Abby and Nicole. On balance, the pre-service teachers did participate in the emerging weblog community, with the exceptions of Nate and Zach, who did not maintain individual weblogs or comment on others. Lauren and Eric also did not comment on other weblogs, although they indicated an interest in reading the weblogs of others during their interviews.

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Comments were mainly supportive in nature, whether commiserating over computer troubles or agreeing with the interpretation of a situation. Certain issues did provoke more interaction among the pre-service teachers, however. Kate related a discussion with a fellow pre-service teacher concerning textbooks. As she explained

> I remarked that I didn't think they were all that good and that I might use them once in a while but probably not all that much. A. was shocked, saying, "What do you mean? How will you teach?" I told her that I will be making up my own lesson plans, using books, articles, movies, music, objects, and numerous other sorts of resources. I might use the textbook as a supplement, but not as the main source of information. She said, "But that's a lot of work!" I replied that…I knew it would allow me to teach more creatively and it would allow my students to learn better because it would be tailored to their individual learning styles. She seemed surprised at this and told me that she thinks it's best to stick to the textbook, because it meets the state standards, and then use other projects and activities on the side.

In doing so, she invited the person to "feel free to defend your views" (W; Nov. 2004). It appears her discussion partner was Abby, who replied in the comment section, "And defend, I shall…Although texts have their biases and are a bit wordy, I am following that baby like fleas on the ear of a bat out of hell! It's amazing how 'simple' lesson planning can be if you lay out your time accordingly. Now of course I need to contribute some non-text items, such as terms, fun facts, and activities, but as I see it, that text is my next best friend."

As already recounted, Abby also responded to Davis' posting of a frustrating encounter with his professor, urging him to reconsider his "negative feelings" because the person was only expressing her concern for him (W; Nov. 2004). Kate also responded to this subject in the comment thread, providing support for Davis' interpretation of the situation rather than a solution: "It does sound to me like she singled you out unfairly." Kate also provided supportive comments in Nicole's weblog, confirming Nicole's wish for an "active, talkative, and busy" classroom (W; Jan. 2005) and assuring Nicole that "this is…probably one of the best growth

experiences many of us have yet encountered…I really think you will get through it and be a better person for it" after Nicole lamented the difficulties of teaching (W; Feb. 2005).

Although the Internet provided open access to the pre-service teachers' weblogs, there was limited interaction with people outside the pre-service teacher community. Two bloggers outside the study offered their insight into the situations recounted by the pre-service teachers. Lit Lover, the pseudonym of a practicing teacher, offered Eric support in resolving his differences with his mentor teacher, saying, "I feel your pain. It's tough being placed with a mentor whose style is so very different from your own" (W; Nov. 2004). After Nicole posted on the exhaustion of student teaching (W; Feb. 2005), Traci, another practicing teacher in the wider blogging community, let Nicole know that teaching remained tiring. However, "you do learn coping strategies, you do develop your own resources, and the time commitment does become less with practice…Hang in there – it will get better."

My role in the pre-service teachers' weblog community is more difficult to determine. As a researcher, I conducted interviews and collected data. As a participant, I read each pre-service teacher's weblog and left multiple comments on each one throughout the study; I also maintained a weblog, which infrequently received comments from Kate and Davis. As a friend, I willingly shared details about my studies, met for lunch, offered teaching advice and celebrated accomplishments. Obviously, there is no way to compartmentalize these roles; I did not cease to have an amiable relationship with these pre-service teachers when I sat down to interview them. In fact, that relationship certainly contributed to the sense that our interviews were friendly conversations – Zach indeed asked once if our conversation was indeed an interview! As Glesne (1999) affirms, the researcher assumes many roles during qualitative work, often accommodating rapport and friendship between researcher and participant. While remaining aware of my positionality within the study, I cannot remove it nor would I wish to. I agree with

Glesne's (1999) viewpoint that one's subjectivity, one's positionality, is "the strength on which you build" (p. 109). Because I am invested in this work, "from the selection of topic clear through to the emphasis [I] make in [my] writing" (Glesne, 1999, p. 109), I believe I will produce a better finished product.

Informal Reflection and Weblogs

The flexibility of weblogs invites the meaning-making of informal reflection. Although weblogs call for a certain structure, they are less structured than more formal approaches to reflection, which impose a specific format for a specific outcome. Weblogs exist in a virtual space, encouraging writers to "try out new concepts that do not have to fit within a hierarchical or topic-based discussion forum" (Ferdig & Trammell, 2004, para. 8). The rapidity of change in the electronic environment also ensures that the format of weblogs will continue to evolve; as Blood (2002a) asserts, the intentions of the author determine the format and purpose of the weblog, allowing the individual to structure the weblog as she sees fit.

The individual's ability to personally determine a weblog's format also determines the quantity of writing. Weblogs are a personal creative space, "ranging in form from numerous short bursts of thought to one longer, more focused piece a day" (Blood, 2002a, p. 60). Informal reflection requires no specific pagination or attention to word counts, allowing the individual to determine the length of engagement with a personally chosen topic. Personal choice also extends to the formality of writing in weblogs; from sentence structure to word choice to capitalization, the choice of communication is determined by the individual's preference for personal expression.

The pre-service teachers did not follow a common pattern of reflection while posting to their weblogs. Some entries are completely non-reflective in nature: entering a list of things to do over the weekend, recounting a friend's wedding, following a favorite baseball team during the World Series. Some entries are simply an outlet for raw emotion, as Shannon noted when she admitted she often used her blog to vent about the difficulties of her student teaching (W; Nov. 2005). Those who maintained weblogs, however, revealed the importance of informal reflective thinking to their development as teachers over the course of the study. Whether asking questions, detailing encounters with students or pondering the implications of choosing a teaching career, the pre-service teachers used informal reflection to understand the continuous changes to their practical theory.

EXCERPT 6

From the researcher's weblog: December 2004

This has been a long and difficult day – not a bad day – but not really an easy day. Another interview – always good to add one to my growing collection, especially when it's full of interesting ideas and thoughtful comments. Lunch with a friend – some comfort food on a cold day. Wrapping Christmas presents – my tree no longer sits forlornly on the carpet. Transcription all this evening – eats up the time and makes me forget about dinner. So, nothing really bad but, still, I have a dull headache and a slightly queasy stomach and I'm rather tired. I think I'm experiencing the side effects of thinking too much.

Dammit, these kids really make me think and it's wreaking havoc on my lifestyle, not to mention my temperament. I'd much rather sit in front of the TV, munching on a bowl of popcorn – the popcorn, not the bowl – while watching some suitably mindless crime show. Instead, I'm walking around with these semi-academic thoughts whipping through my skull – is that a pattern? are they actually talking about the same thing there? could I draw a connection between those different conversations? is there a theory for this? can I pull it all together within this particular framework?

Okay, so I do actually enjoy trying to make sense of it all, in some twisted fashion. The headache I could do without, however. It may be time to call it quits and find that crime show.

CHAPTER VI:
DISCUSSION

"I think reflective teaching is good teaching." ~ Kate

When this study began in the fall of 2004, weblogs were not a familiar concept to the

pre-service teachers. None of the pre-service teachers maintained a weblog; while a few were

familiar with the term, only two acknowledged having read a weblog in the past. An excerpt

from the first group interview proves, with humor, that weblogs were indeed a relatively new

concept to the pre-service teachers.

> Me: "So, what do you know about weblogs?"
> Shannon: "Nada."
> > silence as the pre-service teachers look at each other
> Colin: "About what?"
> > laughter runs around the table
> Nicole: "Some people record – it's like a journal online."
> Davis: "[It] does all the formatting for you, day by day or entry by entry, whatever."
> Me: "Have any of you actually read one?"
> > Kate and Nicole nod "yes" in response.
> Zach: "Where?"
> Kate: "The internet!"
> > laughter erupts again

By the end of the study, however, the pre-service teachers had developed greater familiarity with

weblogs and determined whether the technology suited their personal reflective style. I too had

gained from their experiences, learning more about the potential of weblogs and the flexibility of

reflective practice.

Working with Weblogs

The increasing importance of technology in today's world challenges pre-service teachers to become technology-proficient educators, people who can utilize existing technology, learn to work with new technology and adapt as needed to technical concerns. In the 2001 report, *Preparing Tomorrow's Teachers to Use Technology: Perspectives of the Leaders of Twelve National Education Associations*, the educators agreed that "future teachers emerging from the nation's teacher education programs [must be] prepared to meet this challenge" (Bell, 2001, p. 517). Acknowledging the need for technological proficient teachers, teacher preparation programs across the nation regularly require some degree of technological competency from their pre-service teachers (Bird & Rosaen, 2005; Cohen & Tally, 2004; Rosaen, Hobson & Khan, 2003).

Different programs approach competency with educational technology in different ways, however. Some infuse work with technology throughout the preparation program (Cherup & Snyder, 2003; Willis & Raine, 2001) while others concentrate that work into specific courses (Bucci, Copenhaver, Johnson, Lehman & O'Brien, 2003). The anticipated outcome for either approach is that pre-service teachers gain both the ability to use new technological tools and the necessary knowledge to replace outdated, existing tools to the benefit of student learning (Algozzine, Bateman, Flowers, Gretes, Hughes & Lambert, 1999). When incorporating technology into teaching and learning, however, teacher educators must consider pre-service teachers' various levels of familiarity, comfort and proficiency with the specific tools used. One way to approach this situation is for teacher educators to practice and model effective technology use (Bell, 2001; Willis & Raine, 2001) while directing pre-service teachers' hands-on experiences with the same technology.

Practical, hands-on experience with a range of technologies during teacher preparation contributes to teacher understanding of the diverse abilities and uses of technology for

classroom and personal use. Teacher educators, appreciating this flexibility, continue to appropriate various technologies for reflective thinking. Asynchronous communication tools, for example, have provided communal reflective forums through email discussion (e.g., Whipp, 2003) and electronic discussion boards (e.g., Nicolson & Bond, 2003). Weblogs, an emerging asynchronous tool in teacher education, also hold potential for reflective thinking. As evidenced in this study, pre-service teachers can use weblogs as personalized forums for informal reflection that invite communal interactions.

Weblogs as Unfamiliar Technology

As with any unfamiliar activity, I expected the pre-service teachers to experience a learning curve as they created and initiated their weblogs. The user-friendly Blogger platform, however, limits the need for specialized technical knowledge and therefore shortens the learning process expected when acquiring facility with a new technology. The on-line instruction available when creating the weblog, as well as the ease of accessing a "help" feature, also contributes to the ability to use weblogs without specialized training.

I arranged to meet with the pre-service teachers if they required my help when they established their individual weblog. Davis, a former computer programmer, did not require my assistance but did stop by my office to let me know he had had no difficulty in creating his weblog. During these introductory sessions, while I sat nearby to help as needed, the pre-service teachers commented on the ease of posting and editing entries. I was also available throughout the study if the pre-service teachers requested my personal technical assistance. During the study, I was contacted regarding only one issue, related to the use of a password in order to host the personal weblog on the university server. When the pre-service teachers neglected to update this password as requested by the university, they were unable to post new entries to their

weblogs. This issue was resolved simply by issuing the pre-service teachers an email reminder to update their university server password if they noted this particular problem.

Minor technical problems did occur during the study, most commonly losing a post during the composing process. Kate noted, "The only thing I don't like [about weblogs] is sometimes you put posts on and they disappear, so you can't really get those thoughts back. That's the only problem" (W; Dec. 2004). Whether this problem was attributable to the Blogger platform, the specific computer, the service provider, personal error or any combination of these four elements is difficult to determine. As with any technology, technical issues are a possibility – as an example, Colin mentioned his laptop crashing during the final group interview and received sympathetic stories of technical malfunction from his fellow pre-service teachers. Unfortunately, for those accustomed to utilizing technology, minor technical issues like those mentioned above are a familiar frustration rather than an unusual roadblock.

Technical issues did not appear to dissuade the two non-user pre-service teachers from using their weblogs as much as personal attitudes toward technology use. Colin posted three entries into his weblog in the fall of 2004; in the final group interview, he mentioned having difficulty logging into his account at the beginning of the study and determining that he did not have time to contend with the issue. Perhaps this technical obstacle encouraged Colin's decision to refrain from using his weblog but I would argue that Colin was predisposed against using a weblog from the beginning of the study.

In his interviews, individual and group, Colin plainly stated his lack of interest in technology: He did not have Internet access at his home; his experiences with technology were not positive; he preferred to work at the computer as little as possible. Our discussion about weblogs in his first interview clearly revealed Colin's attitude toward technology use:

> I'm just not a big computer guy anyway. I'll type a paper on there, look at
> ESPN.com, but that's about it… just seems like you have more freedom when

you've got a pen in your hand because…I always feel like when I do those things – writing all this stuff and hit a button and it's going to go away – and I'm going to say, "Not going to do that again!" Because that happens to me with classes I have to do discussion boards for. I'll write this long thing and I'll click to post it and it'll go away and I'll be like, "Well, great. I have to write all that again; I don't even know what I was just saying." (I; Jan. 2005)

In his final interview, Colin summed up his lack of weblog use as a "personality conflict between me and the computer" (I; June 2005). Although he admitted the lack of easily available Internet access affected his computer use, he also explained that using the weblog would not have been something he looked forward to because "I do prefer writing pad and paper, but as far as reflecting, the best way I reflect is just verbally, just talking to somebody." Colin, then, was not actually opposed to weblogs as a reflective medium; however, he recognized that such a medium did not fit his style of reflective thinking.

During this study, Zach also revealed his preference for human, rather than electronic, contact. In his first interview, he explained, "I enjoy talking to you, instead of writing it and posting it on the Internet; I would rather actually have someone to talk [to] about it" (I; Jan. 2005). At the close of the study, I learned that Zach had maintained an email correspondence with his science cohort throughout the preparation program. He used these emails to share stories of teaching and to invite his fellow pre-service teachers out for social gatherings; he considered his emails to be a means to "communicate with the rest of the science people, keep in touch with them, 'cause I was out…where I didn't get to see anybody" (FG; June 2005).

Zach appeared more comfortable with technology than Colin, judging by his email communication with the science cohort; he also did not mention experiencing the technical difficulties faced by Colin. Rather, as he succinctly explained in the last focus group interview, "The weblog just wasn't my outlet." He clarified this comment later by pointing out how busy he had been throughout the program; he also claimed the weblog was "something new and I didn't know all the little intricacies" (I; June 2005). In this final interview, Zach also offered an

additional reason to explain his lack of interest in the weblog: "What I wasn't sure of was how much of myself that I wanted to present in the blog…I even typed out a good page, single-spaced, of what I wanted to say to introduce myself, then I was like, 'Well, maybe I don't want to give out that much detail,' and I never even got around to posting that." Like some of the other pre-service teachers, Zach also considered privacy a mitigating factor in his weblog use.

Dealing with Privacy in a Public Format

The issue of privacy was broached by the pre-service teachers in the first focus group meeting. As I defined weblogs, they addressed the subjects of acceptable content and levels of self-disclosure. Blood (2002a) acknowledges that privacy is an issue that authors must consider when publishing to the Web; as with any published writing, authors should take into account issues of personal comfort and consideration of others. Her general advice regarding publication to the Web is simply stated: "You will never need to be ashamed of anything you have written if you are always respectful of others and their opinions, and if your thoughts are well reasoned and carefully expressed" (p. 133).

During the study, the pre-service teachers revealed differing levels of concern for their weblog privacy. At the beginning of the study, Davis explained that he deliberately chose to concentrate on issues of student teaching rather than those of his personal life, while Eric admitted sometimes drafting what he intended to write in order to avoid certain topics in his weblog. In the spring semester, Eric explained that concern about revealing personal details was less of an issue because "it's easy enough to leave out the personal life because what's on my mind is the student teaching stuff" (I; Feb. 2005).

Kate also addressed weblog privacy in her interviews. While she took steps to protect her privacy, she realized anonymity on the Internet was not guaranteed: "I purposefully left out the school name, purposefully didn't use my real name and tried to avoid all kinds of details,

although I'm sure anybody who knows me can figure it out" (I; June 2005). She accepted the public nature of weblogs, however, feeling that "as long as you leave out personal information about yourself and your students, then I don't see any problem with it. I've found a lot of value in it as far as being able to get it out there…It felt less confined."

The pre-service teachers' choice of authorial name for their weblogs also provides some insight into how they approached the issue of privacy on the Web. Five of the eight who created weblogs used pseudonyms when they posted to their weblogs. Two chose different first names entirely: Kate became *Polly* while Nicole became *Kat*; three chose general phrases as identifiers: Eric going by *In the Mood to Type*, Shannon adopting *justwin14* and Abby using *PreserviceGal*. Lauren elected to use her initials to sign her posts, while Davis and Colin used their actual first names. Colin even titled his weblog *Colin's Blog*.

In the final group interview (June 2005), the issue of privacy was addressed again. Kate expressed a certain ambivalence about her weblog's transparency, looking forward to comments from outside readers yet sometimes resenting their intrusion into what she considered her personal thoughts. Lauren echoed this sentiment, saying, "I was surprised one time when Davis…read [and commented on my weblog]. I was like, 'What is he doing? He's reading it!' [but] I appreciated it." Shannon liked the immediate feedback when people commenting on her weblog but admitted that knowing others were reading her posts sometimes made a difference: "It kind of changed things a little."

Concerns for privacy did not eliminate the pre-service teachers' positive response to weblogs, however. When asked to list negatives elements associated with weblog use in the final group interview, privacy was not mentioned. Instead, the pre-service teachers focused on finding time to write at the computer and their personal preferences for reflection. Davis

summed up the positive and negative issues with weblogs when he pragmatically stated, "I don't know that there's any negatives; I mean, if you don't like it, don't do it."

Personalizing Weblog Use

Weblogs are a continually evolving medium, adapted by users to suit their individual requirements. As Blood (2002a) explains, "Each weblogger creates a personal version of the weblog format, dictated by purpose, interest, and whim. The weblog is infinitely malleable and may be adapted to almost any end" (p. 8). The pre-service teachers who maintained weblogs during this study personalized their weblog use to suit their particular needs.

For some pre-service teachers, the weblog was used as a storage container. Throughout the study, they wrote about weekend plans, sporting events, upcoming holidays and time with friends and family. Nicole reminisced over a friend's beautiful wedding (W; Nov. 2004); Eric described a mountain vacation with his wife (W; Nov. 2004); Davis kept up a steady commentary on the Boston Red Sox, assuring himself that "the world has not ended" when they won the World Series (W; Oct. 2004). Educational topics were also stored away for latter use, such as Kate's lengthy list of "ways to encourage students to use their oral language" (W; Oct. 2004) and Abby's explanation of a "neat idea" to simulate a factory assembly line (W; Oct. 2004).

The weblog was also a space for informal expression. This informality extended to the language used and topics chosen in the weblogs. The pre-service teachers often eschewed grammatically correct language, choosing instead to express themselves through abbreviations, sentence fragments, curse words, misspellings, slang or all lower-case letters about personally meaningful topics. Those individually determined topics included anything from Shannon's

dislike of group discussion in university classes to Kate's plans over Christmas break, from Lauren's commentary on tutoring students in math to Nicole's experience babysitting.

Shannon provides an example of the informality of language and topic with her October 2004 entry: "Yo, it's the weekend, john and I talked about teaching last night mildly while inebriated…I think I want to teach in a school where I'm really needed…I don't like rich brats. peace out." Even weblog entry titles reflected the informality of expression. Davis titled one post "@#*$@#$&@#*$&@#" when his Red Sox lost a second game to the New York Yankees (W; Oct. 2004); Eric was less emphatic, although still angry, in his post entitled "Why am I so mad?" concerning his church's position on a political situation (W; Oct. 2004).

Intentional inquiry was another use for the pre-service teachers' weblogs. In their electronic forum, they questioned and critiqued a range of complex educational issues, frequently drawing upon their practical theory to make meaning of their present experiences and understandings. Lauren, for example, juxtaposed her personal belief in the importance of education with her students' apparent disinterest in learning math. Over a week in November 2004, Lauren revealed her efforts to understand her students. Quotes from her entries trace this intentional inquiry: "Do students just play the school game? It seems that many students are just trying to make it through. They are not concerned whether they grow and learn new material" (W; Nov. 16, 2004); "I am trying to figure out why students do not seem to care about their own education…I have figured out that our society values education very highly" (W; Nov. 17, 2004); and finally, "So, why do students not care?…Those who are not taught to care about education probably won't care about education…Some teachers fail in relating [math] to the real world and kids never [see] the purpose or reason for having to learn certain things" (W; Nov. 18, 2004).

Two predominant topics discussed in the weblogs were the qualities associated with good teaching and the difficulties of working with students. As their entries revealed, the pre-service teachers used their personal experiences as a springboard to explore these complex topics. Eric questioned whether his mentor teacher's approach to the classroom was indeed a good model to follow. In one instance, he felt her decision to "lecture the students on their behavior in the hall, or their work on tests and recent projects" distracted students from the assigned class task (W; Oct. 2004). Later in the semester, he questioned the teacher's disapproval of students speaking Spanish between class periods, ascribing his discomfort with the situation to the teacher's dismissal of culture and native language.

Kate's weblog often included discussions of her interactions with her ESL students. She seldom related frustrations with students, however, but frustration for students, as captured in this entry:

> I am very gratified to know that my students really appreciate my ability to speak Spanish and Farsi as well as English…For example, my Persian student, H., told me, "You don't know how glad I am to have you here. You have no idea how lonely this past year has been." Also, I think (and perhaps I am assuming here) that all of the kids are just glad to be getting someone new with more energy, who has less focus on 'discipline' and more focus on LEARNING. This is the main problem I've observed in every single class: they're bored because they don't have enough to do, so they act up and get in trouble and miss out on even more learning time. (W; Jan. 2005)

The last category of weblog use was that of individual exploration. The pre-service teachers often used weblog postings to consider experiences and concerns related to their personal growth as teachers. Whether examining the strengths and weaknesses of their teaching or contemplating their futures as teachers, the pre-service teachers were willing to explore their reflections in the forum of the weblog.

Shannon struggled during her student teaching, realizing that "teaching is really hard" yet feeling unable to improve because "I can't figure out what I'm doing wrong, creating a situation

where it's hard to get better" (W; March 2005). Over time, she was able to identify strategies to make her teaching better – such as relating her mistakes in the classroom to missed shots on the basketball court, both events requiring her to accept the inevitability of mistakes while pushing her to "move on and finish the rest of the game" (W; April 2005) – so that she could finish the semester having learned more about good teaching: "I have definitely gotten better as a teacher…looking back, I have learned a lot from my mentor teacher" (W; April 2005).

During her student teaching, Kate worked to resolve her concerns over the personal demands of teaching. As she explained early on, "I have no question that I want to teach, but I just wonder how long I am going to last…I just don't know how I can do this without getting hurt" (W; Nov. 2004). By the end of the program, Kate expressed a different sentiment, writing

> I could recall feeling overwhelmed last semester, with good reason, and yet I do not feel that way at all now, despite the many problems my students have…I don't have an overwhelming sense when I think about my high school students. Perhaps because I recognize I can't change everything…I don't become overwhelmed most days, because I feel a very real need is being met through my teaching. (W; April 2005)

Like Kate, Davis also expressed frustration with aspects of teaching while he was in the schools but, in his last post, related that "it was a lot of work, but i learned a ton. it was frustrating and downright depressing at times, fun and enjoyable at other times, and definitely a worthwhile experience" (W; May 2005).

The four categories of weblog use identified here – storage container, informal expression, intentional inquiry and individual exploration – reveal the adaptability of the weblog. As Blood (2002a) reminds us, weblogs are a flexible medium, allowing individuals to personalize the content as well as the purpose for the content. To some degree, weblogs have the ability to operate within Vygotsky's zone of proximal development: Although weblogs are similar to commonly known asynchronous communication tools, such as email and electronic discussion boards, they are a relatively new tool in education. Thus, teacher educators and pre-service

teachers have the opportunity to explore the value of weblogs as a new venue for reflection while working with a technology that retains familiar asynchronous features.

Informal Reflection

Despite the flexibility found in reflection's history (Fendler, 2004), pre-service teachers are often taught a particular structure for reflection, determined by particular hierarchies and evaluated against particular levels. Maintaining a one right way approach toward reflection proscribes different ways of approaching reflective practice. When the benefits ascribed to reflective thinking are considered, teacher educators are encouraged to support multiple possibilities for reflective practice so that pre-service teachers might carry reflection with them as they leave the university.

As defined by this researcher and evidenced through this study, informal reflection is one such possibility for reflective practice within teacher education, defined by the interplay of four main elements: practical theory, structure, personal expression and communal interaction. Also evidenced through this study, weblogs provide a forum for informal reflection; as such, weblogs as a specific medium for informal reflection will be included within the discussion that follows.

Practical Theory

Handal and Lauvas (1987) define practical theory as an individual's changing personal system of knowledge, formed by diverse experiences – readings, conversations, observations – and understandings. Pre-service teachers bring this individually crafted knowledge to their preparation, continuing to draw upon it to make meaning from new concepts and events. Teacher educators must craft ways to engage the practical theory of pre-service teachers, so that

it is made explicit, clarified and challenged by others, allowing pre-service teachers to "use their puzzlement to drive useful inquiry (Francis, 1995, p. 229).

Informal reflection invites the inclusion of pre-service teachers' practical theory. In the personalized environment of a weblog, pre-service teachers determine the content presented for discussion, often drawing upon past experiences and understandings – their practical theory – to understand a personally relevant issue. When Kate begin working with students, for example, she linked this experience with her past volunteer experience in a migrant school, noting her comfort in the new situation and hoping that "once I really start teaching, I'll begin having more 'migrant school' days, where I…have fun learning with the kids, instead of worrying about being a teacher" (W; Oct. 2004). As Kate reveals, pre-service teachers tap their personal theory during informal reflection, allowing them to make connections essential to their growth as teachers.

Structure

A specific approach to reflective practice supports a specific structure to reflection. Within Dewey's basic reflective structure of description, analysis and action, teacher educators may offer specific guidelines (Francis, 1995) or explicit questions (Yost, Sentner & Forlenza-Bailey, 2000) to structure pre-service teachers' reflective efforts. They may also value those reflective efforts according to the specific categories (LaBoskey, 1993) or hierarchical levels (Ward & McCotter, 2003) to which they correspond. Teacher educators, however they structure and utilize reflective practice, clearly value reflective thinking for the benefits already discussed. Informal reflection offers another approach to reflective thinking, modifying the structure that is accepted in teacher education.

A specific step-by-step method or a list of assigned questions is not incorporated into informal reflection. Rather, gaps in and variations from formal reflective measures are accepted as pre-service teachers become accustomed to thinking reflectively. Eric, for example, returned

to the same topic in several weblog postings: his student teaching placement with a particular

mentor teacher. As he pointed out early in his placement, he was felt he needed "to figure out

the hidden meaning behind assigning me to this teacher" (W; Oct. 2004). He viewed her

teaching style as too different from his own and often expressed discomfort with certain

pedagogical decisions. Some analysis of the situation was offered, such as when Eric questioned

his ability to work with a female supervisor, (W; Dec. 2004), but in his last post, he returned to

description, designating his time with this teacher as "my tour of duty" and providing additional

examples of their incompatibility (W; March 2005). In this manner, Eric used his weblog to ask

questions, provide details and offer limited analysis but did not discuss what he might do to

resolve the issue. Informal reflection, then, does not confine pre-service teachers to certain

procedures of objective inquiry; rather, the structural requirements remain flexible during this

informal meaning making.

Personal Expression

Personal expression is the third element supporting informal reflection. The inclusion of

the affective domain is accepted in informal reflection, encouraging pre-service teachers to

explore the interpersonal and intrapersonal dimensions of teaching. These components are

often important to pre-service teachers as they enter teacher preparation; during their

preparation, however, they may move away from the more emotional dimensions of teaching –

social justice, humor, relationships – to the more managerial dimensions – management,

outcomes, strategies (Mills & Satterthwait, 2000). Informal reflection invites discussion of the

inter- and intrapersonal, as does the format of the weblog.

Emotions and emotional states play an important role in learning to teach (LaBoskey,

1994). Pre-service teachers get angry, frustrated, excited, giddy, overwhelmed – such emotions

are acceptably expressed in informal reflection and captured through weblogs. An entry from

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Kate's weblog reveals the importance of both the affective and the emotional in informal reflection:

> Above are the tickmarks that I spent my last class tonight making on a scrap of paper. These tickmarks represent the number of times that She who shall not be named opened her mouth in class tonight. You know it's serious when I start getting into statistics…I recorded exactly 100 comments. This averaged to **1 comment per minute** from Swsnbn, which is absolutely unacceptable, especially considering that no other individual in the class spoke even 25% as much as she did…I don't say this to be mean at all, but this is really sad because it's gotten to the point where I feel like she's detracting from our quality of education because she takes up so much time with her inane comments. We can't get a word in edgewise, and the instructor barely does better than we do, so meaningful conversations about the topic at hand are few and far between. (W; Nov. 2004)

Kate certainly expresses her irritation with this classmate, with a measure of humor, but she also reveals rational insight into the implications of this individual's actions. In any classroom, when a student dominates the discussion, the other students learn little, "even in grad school," as Kate highlights.

Expressive language is also included in the element of personal expression. Individuals are free to express themselves as they choose, using any combination of slang, curse words, abbreviations, sentence fragments and all lower-case letters. With no language restrictions outwardly imposed, the pre-service teachers were able to use the language appropriate to their personal style.

Attention to language conventions varied among the pre-service teachers. Kate, for example, rarely presented misspelled words or incorrect grammar, perhaps not surprisingly as indicated by this thought: "This blog is the perfect tool for perfectionists. We can edit and reword to our hearts' content" (W; Oct. 2004). Eric's and Lauren's posts, however, often contained mistakes, an acceptable circumstance for both informal reflection and weblogs. At some point, all of the pre-service teachers incorporated curse words and evocative language into their weblog postings to convey strong feelings. Shannon admitted to being "scared shitless"

when she started teaching (W; Nov. 2004); Davis proclaimed one Friday "a sucky but important day," as he dealt with difficult students while the substitute teachers "just sit on their ass" (W; Feb. 2005); Nicole wasn't sure "when to freak out concerning a job" as she prepared for the job market after completing her student teaching (W; May 2005). In the weblog's environment, the pre-service teachers were able to express themselves through individually determined language without fear of reprimand or correction. Calling upon particular language to express their thoughts and feelings, the pre-service teachers were able to work within the space of the weblog to create a personally meaningful atmosphere or context in which to place their informal reflection.

Communal Interaction

The last element supporting informal reflection is that of communal interaction. While reflection is most often portrayed as a solitary process, Zeichner and Liston (1996) support reflection as a social practice, asserting that "the challenge and support gained through social interaction is important in helping teachers clarify what they believe and in gaining the courage to pursue their beliefs" (p. 76). The social interaction provided through weblogs, located as they are within the World Wide Web, broadens the learning community to include all those with a computer and access to the Internet.

A limited learning community was established among the pre-service teachers, as they read and commented on each others' weblogs. Davis often responded to his fellow pre-service teachers' postings. To Lauren, he offered reassurance that "we'll get it all done" (W; Nov. 2004); to Shannon, he dismissed professors who were not supportive, saying "at least we have one that probably thinks we'll be good" (W; Nov. 2004). Kate also replied to others' postings, supporting Eric's defense of a student's use of his native language and explaining Nicole's frustration with

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teaching as a natural reaction to encountering "something that's harder than we expected" (W; Feb. 2005).

Comments from non-participants were infrequent but supportive of the pre-service teachers' experiences and feelings. Traci, a practicing teacher, affirmed Nicole's fatigue when she said, "The exhaustion you describe never really seems to go away…Somehow I always manage to forget just how very hard we work until I'm back in the saddle" (W; Feb. 2005). Lit lover, another practicing teacher, offered some advice when Eric expressed frustration with his mentor teacher:

> However opposed your own educational philosophy is to your mentor's, there are things you can learn from her. Teaching is so very complex – while your actual practice might not mirror hers, there will be valuable insights you can gain if you look hard enough…maybe ask directly for some of the guidance you want…if she knows you value her opinion, she might be more inclined to give it. Just a thought. (W; Nov. 2004)

This was the type of interaction that Abby looked for when she established her weblog; as she explained, without it, she simply stopped blogging.

Focus group and individual interviews suggested that the pre-service teachers enjoyed the communal interaction available through their weblogs but a working learning community was never formed. The pre-service teachers appreciated reflection that occurred collaboratively and more often found this in physical talk with others about teaching and learning issues. A feature of informal reflection and an element supported by weblogs, more research into the establishment of a working learning community would be both beneficial and informative.

Mewborn (1999) reminds us that teacher educators are also a part of the community of learners, working to provide a setting promoting investigation and inquiry into the problems of teaching. In this spirit, I often commented on pre-service teachers' weblog postings. While my comments were often supportive in nature – "hope you feel better soon" when Kate was suffering from a sore throat (W; Oct. 2004) – I often used the comment feature to present an

alternative interpretation of a situation, not as the voice of authority but as an interested fellow educator. When Lauren complained about parental disinterest in student success, for example, I offered the following response:

> Your thoughts on parent involvement bring back memories of when I started teaching…I do think parents care about their children and I do think they want to see them succeed in school. I'm not sure, though, that they always know how to accomplish this…Sometimes I wonder what would change if teachers and parents were encouraged to work together to solve problems. (W; Oct. 2004)

Davis also responded to Lauren's post, explaining, "I would have been a total screw up if not for my parents. My dad had to sit with me every night to do my algebra homework, before I got straightened out socially and scholastically." Together, we formed a learning community exploring a particular subject, drawing from our various practical theories to present different perspectives of the same issue. The challenge and the support found in such learning communities are vital for pre-service teachers' growth into professional educators.

Supported by the work of Dewey (1910/1997, 1933/1960) and Schön (1983, 1987), as previously discussed, informal reflection is offered as an additional form of reflective thinking. Unlike formal methods of reflection, informal reflection is not guided by assigned topics or structured formats; rather, the individual is at liberty to choose both the topics discussed and the manner in which this discussion takes place. Informal reflection is a work in progress, caught at a specific point in time; as such, the particular language and emotions of the individual are captured as well. Placed within a community of learners, informal reflection invites the varying perspectives and different viewpoints that individuals bring to their learning, supported by their practical theory and enhanced by their emerging awareness of teaching and learning. Whether a springboard to more formal reflection or a separate moment of reflective insight, informal reflection remains a conscious effort to consider one's understanding of beliefs and events, leading to new insights and alternate actions.

Implications

Reflective teachers approach the dilemmas of classroom practice with an awareness of their assumptions, values and beliefs (Zeichner & Liston, 1996). Reflection's importance, then, is grounded in meaning-making, as prior conceptions are incorporated or transformed into new understandings, resulting in an ever-changing practical theory. Acknowledging the benefits of reflection, teacher educators continue to implement reflective practice in teacher preparation in a variety of methods: formal essays, structured writing assignments, email conversations, on-line discussions. The charge of teacher educators is to challenge pre-service teachers "to reflect on their practice in meaningful ways…and develop habits that will stay with them" (Ward & McCotter 2004, p. 244) as practicing teachers.

The reflective process is flexible, as Fendler (2003) demonstrates with her genealogy of reflection. Teacher educators who explore the range of possibilities for reflection present pre-service teachers with multiple reflective options that suit their personal strengths and styles; as such, reflection can be understood as a meaningful activity worth the time and effort required when pre-service teachers enter their own classrooms as practicing teachers.

Experience with multiple forms of educational technology during teacher preparation also provides pre-service teachers with options for reflective practice. In seeking to produce technologically proficient educators, teacher education programs can incorporate technology into teacher preparation in a number of creative ways (see Phillion, Johnson & Lehman, 2003; Koszalka, Grabowski & McCarthy, 2003; Stallings & Koellner-Clark, 2003). Through weblogs, teacher educators gain an additional approach to reflection that engages pre-service teachers in a personally meaningful reflective process while supporting growth in their practical theory.

Providing pre-service teachers with multiple, authentic experiences with both reflection and technology encourages our pre-service teachers to adopt a form that is more likely to remain with them outside the university.

The research undertaken in this qualitative study reveals the positive potential of weblogs in pre-service teachers' reflective practice. An emerging technology in teacher education, weblogs offer a new medium for reflective practice. As demonstrated by these pre-service teachers, the informality of weblogs, their accessibility through the Internet and the ability to build community on-line are positive features of weblogs. These features, in turn, support the development of informal reflection. Informal reflection is not a substitute for the formal, hierarchical (and necessary) reflection frequently found in teacher education. Rather, it is a facet of the reflective process that, with further study, may prove to be a valuable component of reflective practice for pre-service and practicing teachers.

Pre-service teachers are well aware of the benefits of reflection; as Colin asserted in the final group interview, "I think, regardless of how formal your mode of reflection is, any decent teacher – which I'm sure all of us are – is going to think back on what happened and ask…'How can I make it better, what went well, what didn't go well.'…I think you owe it not only to yourself but to your students." The potential of weblogs to provide a forum for reflection during and beyond the teacher preparation period are well worth extended application and study.

EXCERPT 7

From the researcher's weblog: January 2005

Funny how the mind works. I can almost think more clearly about this research when I'm not sitting in front of it.

As promised, I broke open the laptop for actual academic pursuit today, fully intending to work on the conference paper but quickly realizing that writing a paper to present preliminary research findings requires some genuine work with the research first. While I've been mulling over fragments of interviews and snippets of blogs for months now, I haven't actually sat still long enough – and I realize the irony, since sitting should be an Olympic sport for me – to attempt any decoding of those fragments and snippets.

So, that's what I started today: trying to deconstruct the pre-service teachers' blogs into spreadsheets that reveal themes, issues, points of view, and the like. I don't necessarily like destructuring in and of itself but taking up one of their sentences or ideas, turning it around in my hand like a paperweight of cut glass to see what the light catches, that catches my attention long enough to make sitting still worthwhile.

Once I have a better grasp of what I'm working with, I can start pulling out the big ideas. Key sentences are already jumping out, though; even without knowing where they're leading, I know there are some seminal thoughts working in these early writings.

CHAPTER VII:
CONCLUSION

"We don't have the liberty of being brainless." ***~Shannon***

During the Fall 2004 group meeting, several pre-service teachers offered their thoughts on reflective thinking, revealing that, to them, reflection was a necessary and often difficult endeavor. Colin pointed out that reflection is "a painful process in a lot of ways" because there are so many issues to consider as teachers in the classroom. Davis agreed with Colin, saying that reflection "makes the effect you have more real" because it forces the teacher to take time to consider the situation, observing that "if you write it down, you have to think about it." Kate offered her opinion that reflection is also "a way of keeping the idea of why you started teaching fresh in your mind…you're constantly thinking why am I here, what am I doing, what can I do better." In agreement, Abby noted that reflection meant teachers were "always striving for something" and that led to new ideas and fresh approaches in the classroom. Colin and Davis wrapped up this strand of discussion, with Colin stating, "If you don't reflect, you can sort of hide from yourself. It's more comfortable not to do it, I think. You can just go on day to day and not have to worry about how you screwed up," and Davis finishing with, "It might show you – or expose – some of the smaller things you did that were either successful or failed miserably but you wouldn't have thought about otherwise."

LaBoskey (1994), a proponent of reflective practice in teacher education, explains, "Good teaching requires thoughtful, caring decision making wherein educators are able to move

beyond the tendencies of their own biographies and the apparent mandates of their current circumstances to envision and consider alternative interpretations and possibilities" (p. 9). This discussion between the pre-service teachers reveals that, like LaBoskey (1994), they are aware of the necessity, as well as the difficulty, of reflection for good teaching.

Throughout the study, in interviews and weblog postings, the pre-service teachers reiterated the importance they accorded reflective thinking. Whatever their reflective preference – writing in a weblog, jotting notes on lesson plans, communicating with fellow teachers through emails, talking with friends over beers – in the last group interview, each of the pre-service teachers agreed that reflection was a worthwhile endeavor, despite the busy future they saw for themselves once they entered the classroom.

In each of the final interviews, I asked the seven pre-service teachers who maintained weblogs to describe their experience with weblogs and reflection over the course of the study. Their responses to this question capture the flexibility of weblogs and the individuality of response to reflection.

> **Abby**: The blogs are a great way to reflect but they are one way to reflect…I did want that to be an outlet for other people to give some advice and when that wasn't happening, I sort of stopped writing…it's more fun to read them than it is to write them. There are lots of good ideas out there, you just need to find them. (I; June 2005)

> **Davis**: I've done…web pages and stuff before so it wasn't anything new, and as far as the writing about teaching…I liked it when there was back and forth between people, didn't like it so much when I just wrote. I don't need to do that on a weblog; if nobody's going to read it or respond to it…then I'll just write it for myself. (I; June 2005)

> **Eric**: Looking back on some of the [posts], it was quite fun to read my thoughts and where I was back then…going into my student teaching…It was fun, going back and reading that stuff and I guess…helpful? in more ways to let me know that, "Yeah, you're going to be apprehensive and scared about certain things but you're going to get through it, it'll be just fine." (I; June 2005)

Kate: I think I had a better experience than most people…I found it very natural to write on it and very easy, since I was usually on the computer at least once or twice a day…Overall, I really enjoyed it and I plan to keep on writing. (I; June 2005)

Lauren: My friends will tell you that I really didn't do email much either, and so the blog was just another step beyond that and it just didn't really work. But I really enjoyed it when I did it because I was talking about things…It was good and I got some things out and thought through them; sometimes I just typed and didn't think about it but then, later on, it would come back. (I; June 2005)

Nicole: I thought it was good. I think it was more useful having other people in the program doing it, too, that was instructive; like some people said, it made more sense or it was more fun when people would write comments…they had that experience, too, or this is how they did that or just kind of compare…because we really didn't see each other; unless somebody was placed at your school, then you really had no idea what was going on. (I; June 2005)

Shannon: What I would have like using it for was bettering my writing. I feel like coming up with ideas…is more what I want to do face-to-face, but the ability to communicate it in writing, I think, is something that's important…I think that the weblog is a really good place for that because it's kind of informal but people don't really know what you're thinking…just what's written there – no facial expressions, no emotions, just the words. (I; June 2005)

The reflective process is flexible and, as such, can incorporate a variety of approaches to reflection. Informal reflection is one such approach, an avenue for personally meaningful reflective thinking that encourages pre-service teachers to engage in "active, persistent, and careful consideration" (Dewey, 1933/1960, p. 9) of the teaching and learning they encounter as classroom teachers. Informal reflection is not a substitute for the formal, hierarchical and structured reflection found in teacher education; rather, it is a facet of the reflective process that, with further study, may prove to be just as valuable for pre-service teachers.

Appreciating the different responses that pre-service teachers bring to reflection also highlights the importance of appreciating their varying responses to technology. Despite the ubiquity of technology in our everyday lives, pre-service teachers possess personal and individual reactions to using that technology. Some, like Kate, spend hours on the computer and may have little trouble integrating different technologies into their daily routines; some, like Colin, avoid

working at the computer and may benefit from utilizing alternative methods for the same task. Providing our pre-service teachers with multiple, authentic experiences with reflection and technology encourages them to adopt a form of both that may be more likely to remain with them outside the university.

Weblogs possess the flexibility, personalization and informality required to engage in informal reflection. They are only one form of technology, however. As more and different technologies appear, we are encouraged to explore their suitability for reflective thinking, formal and informal. We are also encouraged to revisit older, more familiar technologies for the diverse opportunities they may offer to the reflective process.

Shannon's explanation of reflection's importance during the Fall 2004 group meeting presents the significance these pre-service teachers accorded being reflective teachers. She also reminds us that, as teacher educators, we owe it to our pre-service teachers to explore new, individualized approaches to reflection and technology:

> A lot of people say it's so easy to be a teacher and I think it is easy to be a teacher if you don't reflect on what you do, if you don't think about the fact that I'm impacting these 30 students, everything I do impacts them in some way and I need to…make sure that I'm careful with what I'm saying, careful with what I'm doing, don't bring my biases in, because to be a good teacher you have to be able to do all that stuff. To be a bad teacher, you can just go through your day brainless.

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