

# Students' Lived Experience Of Using Weblogs In a Class: An Exploratory Study

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## Abstract

*Recently, attempts have been made to use Weblog and other personal webpublishing technologies to support individual and social reflection in higher education. Due to Weblog's highly individual and reflective nature, students' experiences and perceptions of the technology and practice is of primary importance in furthering its educational use. In this phenomenological study nine participants, who maintained Weblogs in a graduate course, were interviewed. Initial data analysis indicates that participants found Weblogs helpful for learning, reflecting, and building a sense of community. However, participants expressed concerns over the lack of structure for Weblog usage and the public nature of the reflective process.*

## Introduction

Reflective learning and thinking is widely regarded as being important within all contexts, especially, in higher education (Brockbank & McGill, 1998). Reflective thinking was originally defined by Dewey (1933) as purposeful thinking oriented toward a goal. Reflection in learning involves a process of recording experience and then revisiting the description with the intent of refining learning processes and strategies (Boud, Keogh, & Walker, 1985). Two propositions are important in this context: one, that students find it difficult to engage in reflection over time without external support (Harri-Augstein & Thomas, 1991) and two, that the learner is primarily responsible for identifying important experiences and then linking experiences to learning (Boud et al., 1985). Reflection is governed by both cognitive and affective components and the reflective act is preceded and accompanied by individual feelings and perceptions that could either form barriers to or enhance learning. Understanding the affective components of reflection and their effect on student learning and experiences is essential for identifying appropriate uses of reflection to assist individual learning. In this paper, we identify and explore student feelings and their lived experiences of reflecting on a Weblog (which is a technology supported instantiation of a reflective journal).

## The Role of Reflection in Learning

Within a constructivist philosophy of learning, learners are the determinants of the structure and sequence of their knowledge construction. Ultimately, the learner is responsible for his or her own learning and the teacher acts as a facilitator to guide the students learning (Moon, 1999). From a cognitive perspective, learning is made more meaningful when it is integrated—that is assimilated and accommodated—within the learner's prior knowledge (Piaget, 1970). Meaningful learning is also guided by experience and interpretation of experience. Learning can be viewed as a process of revising the interpretation of an experience, which leads to new ways of thinking, valuing, and acting (Mezirow, 1990). The importance of reflection in engendering meaningful learning is addressed by Kolb (1976), who proposed a cyclical four stage model where concrete experiences serve as the basis for observation and reflection, which in turn allows for abstraction and application in new situations. The British Further Education Curriculum and Development Unit (FEU) proposed another model of learning where reflection occupies a central place in learning: specific reflective activities are vital for extracting specific learning of skills and knowledge from an experience (FEU, 1981).

The earlier models clarify cognitive components of reflection: affect is another important influence on the reflective act (Boud et al., 1985). Current and previous experiences affect the perceptions of the learner during the reflective act: positive experiences can enhance learning, while negative experiences can form barriers to learning (Boud et al., 1985). Kelly (1955), as part of his work in personal construct psychology, suggested that objects, events, and constructs are meaningful only when viewed from the perspective of the person construing the meaning. In the context of reflection, Boud, Keogh and Walker (1985) identify the importance of understanding learner intentions and perceptions regarding a specific reflective activity or purpose. Mezirow (1990) identifies the importance of understanding learners' feelings about their perceptions, thinking, action, or habits of engaging in

reflection—that is, understanding learners’ affective reflectivity.

### **Engaging Students in Reflection**

Numerous strategies have been recommended for encouraging reflection, such as Socratic questioning, journal writing, Interpersonal Process Recall (IPR), and reflecting teams (Griffith & Frieden, 2000). Journal writing serves a number of purposes, including allowing a student to externalize his or her reflections on experiences (Stickel & Trimmer, 1994) and then to reframe experiences within the current context (Andrusyszyn & Davie, 1997). Writing about their experiences may allow students to “think critically and develop keener insights into assumptions and beliefs that can interfere with their judgments” (Griffith & Frieden, 2000). For example, Jasper (1999) suggested that journaling might provide a mechanism for nurses to develop analytical and critical skills. Hettich (1990) also suggested that students liked journal writing because it permitted instructors to “monitor” students’ development and journals help them form connection between concepts in class and everyday experiences.

One technology-based instantiation of journaling has emerged in the form of tools and practices surrounding personal Webpublishing. The most common instantiation of personal Webpublishing is a Weblog, which offers mechanisms for learners to publish their thoughts, commentaries, and reflections in the form of individual posts on a Web page. The individual posts are time stamped, archived, and appear in reverse chronological order: that is, the most recent posts appear on the top of the page and older posts are at the bottom of the page. Weblogs allow for personalization and customization by individual Webloggers. Weblogs offer a relatively convenient and easy mechanism for students to journal their learning processes, and if used appropriately this technology has the potential of facilitating reflective learning. Weblogs support the ability of students to record and revisit experience, which is an important part of reflective learning (Boud et al., 1985). Bateson (1973) conceptualized that reflection was a function of distance, “they (processes of reflection) are preconditioned by distance” (Sorensen, 2004). In Bateson’s learning theory, when there is a direct relationship between the learner and the object (to be learned), no reflection happens at this point. However, when there is an indirect relationship (distance) between the learner and the to be learned, “the learner uses reflection as one of the means in his/her learning process...there is a systematic reflection on how to solve a problem, and the learner is conscious about the fact that he/she is learning. He/she is consciously tied to the situated conditions (in a wide sense) and actively using what he/she has learned at other (lower) level” (Sorensen, 2004). Based on Bateson’s theory, Sorensen (2004) concluded that virtual environments are conducive to reflection. Weblog environments can promote reflective activities in learners since they lengthen the distance between learners and the content to be learned.

Reflective journaling stands in contrast to more common forms of online discussion or conversation such as bulletin boards or chats even if they all publish individuals’ thoughts and arguments. They differ in that postings in discussions or conferences are interwoven and build on each other, while Weblogs are more stand-alone and individualized. Moreover, course-based discussion boards are usually open to a limited number of people while Weblogs are, by design, available to anybody on the Web and therefore open to a broader audience. The use of Weblogs in education is relatively recent and our understanding of the impact of this technology in supporting reflection is incomplete.

### **Weblogs and Reflection**

With the relatively recent introduction of Weblogs, very little empirical research has been reported regarding their use in supporting different types of thinking and activities in higher education. One area of research deals with students perceptions of sharing their online journaling practices. For example, Weblogs can be structured to encourage sharing of students’ journals by indexing all students’ Weblogs on the same page. In this sense, a Weblog bears some resemblance to a “team journal” -- where a group of students collaboratively write a common journal for the team-- (Andrusyszyn & Davie, 1997; Graybeal, 1987). Team journals reportedly helped students to make sense of themselves and the world around themselves through a “cooperative shared venture” (Andrusyszyn & Davie, 1997). Another focus of exploration has been the impact of Weblogs on interaction between students and instructors. Grennan (1989) studied the effects of sharing journals of graduate students with their instructors. He reported that the use of a personal tone increased the “warmth of an academic environment”. It was perceived that the sharing of journals narrowed the distance between students and teachers and offered a form of security (Andrusyszyn & Davie, 1997).

However, there is very little reported exploration into learners’ individual perceptions and experiences with the use of Weblogs for reflection. As presented earlier, reflection is a combination of attitudes and skills, of affective and cognitive components, and we believe that an understanding of students’ experiences with and their attitudes towards this technology and practice would offer guidelines or suggestions about how Weblogs could be used best

to enrich students' learning experiences. We hope that the outcomes of this study would serve as a springboard for later research about appropriate uses of Weblogs to support individual reflection and group discourse in educational settings. The research question for this study was: how do graduate students engaged in a course-specific web logging activities describe their experiences of reflecting on the Weblogs and what meanings do they attach to those descriptions?

### **Research Design**

Field research methods were employed because this study aimed to explore the lived experiences of graduate students in their Weblogging activities. Within the family of field research methods, phenomenology was selected as the research method, since phenomenology is concerned with understanding and describing people's lived experiences with a specific phenomenon (Van Manen, 1997). The current study is to explore graduate students' lived experiences of Web-logging. Also, phenomenology aims to gain an in-depth understanding about the phenomenon at issue by searching for its essence and invariant structure (Van Manen, 1997). Likewise, the current study wishes to address the nature of course-specific Weblogging phenomenon.

### **Participants**

Participants of the study were nine doctoral students --four males and five females between 24 and 40 years old-- who enrolled in one graduate level course offered at northeastern land-grant university. The study participants maintained Weblogs for one academic semester, as part of a graduate course requirement. Criterion sampling (Creswell, 1998) was used to select participants from the classes who had maintained Weblogs for at least one semester. In addition, the subjects were "willing to participate in a lengthy interview, and grant the investigator the right to tape-record" (Moustakas, 1994).

### **Data collection**

An interview protocol with several open-ended questions was designed by referring to the guidelines developed by Moustakas (1994) and examples provided by Van Manen (1997) and Creswell (1998). An "interview guide approach" (Rossman & Rallis, 2003) was used to conduct one-hour interviews with each individual participant. Interview questions revolved around the following main themes-- students' feelings toward using Weblogs in class, their approach to reflecting on the Weblogs, and their perceptions of its utility in their learning.

### **Data triangulation**

A second interview of about 20 minutes will be conducted to follow up with additional questions and conduct member checks. The participant Weblogs will also be analyzed to provide an additional level of triangulation.

### **Data analysis**

All interviews were transcribed and N-Vivo was used to analyze data. Free codes and axial codes were created based on the analyses of these interview transcripts. Preliminary categories of students' lived experiences of using Weblogs in a class were found and are presented in the following section. Data analysis comprised a preliminary grouping (also called "horizontalization" (Moustakas, 1994)), thematic labeling, and finally developing a textual-structural description. The aim was to develop a composite description of the meanings and essences of the experience for the whole group of participants and identify different influences on perceptions and use of the Weblogs in contributing to students' reflective thinking and learning.

### **Initial Themes and Findings**

Data analysis is still ongoing, but we present here some of the initial themes that have emerged through analysis. Overall, student experiences can be grouped into positive and negative (or hesitant) feelings about the use of Weblogs. Most students felt positively towards their Weblogging experiences because they felt that Weblogging helped learning and thinking and the environment offered a space outside of the class where they could "meet" and discuss so that a sense of community was created. Being graduate students in instructional systems design, they were excited to be able to explore a new kind of technology themselves and to understand and tap its potential for their own future instructional design.

## Positive Perspectives about Weblog Usage

### Blogging helped thinking and learning

The first theme in the positive experiences of Weblogging speaks to the utility of Weblogs in aiding thinking and learning. Primarily, participants thought that Weblogs supported their learning by providing different viewpoints, by providing a space where reflection and commentary could be organized and whereby changes in thinking could be charted, and by pushing them to think more critically about reading materials and resources.

Participants suggested that the instructor's and other students' Weblogs were useful for their learning and thinking because they offered different points of view and additional information beyond the class content, and connected the learning content to their own experiences.

"...have others to offer their thoughts and opinions ... and offer another point of view, something else from another point of view. And now you are looking at the whole spectrum, you are not looking at one part of a circle. In fact, you are looking at many arcs in hopes of completing a circle of knowledge toward a particular subject" (Interviewee 2, Paragraph 64).

So if somebody else likes to contribute their experience, I thought that enriched the course, maybe challenged some views I thought the answers have to be this way. But then somebody else does some other way and they get better results. So I let me consider other alternatives (Interviewee 3, Paragraph 75).

The Weblog provided a space where students could organize their thinking and synthesize their learning and students appeared to find it useful to have a structured space where they could construct their learning.

"... it gave me a space I can summarize my thoughts ... I think it's good students have opportunities to sit down and write something, esp. reflective thinking because writing is a process that makes your thinking in a ordered..." (Interviewee 7, Paragraph 138).

"you take learning, bring it into your own context and structure it to make more sense. The process I was going through that I thought was rewarding. I was able to construct these blocks into new blocks of my own. When I came into the class with my own mental model of how the pieces work together, instead of just pieces..." (Interviewee 3, Paragraph 95)

Weblogs seemed to indicate the ability of "charting" students' changes. As students read their own blogs, they could see their own changes and growth in thinking. Being able to see those changes allowed them to better reflect on their learning.

"...Weblogs can provide a discourse for reflection. ... It sort of lays out for you a roadmap of your development in an area..." (Interviewee 2, Paragraph 156)

"...one of the things I did through Weblogs was to reflect on our personal growth in terms of instructional design ideas and so on. So that writing Weblogs help me articulate our ideas and also I could compare ideas. That was what Weblogs are meant to be because like a history of my thoughts. So I could see changing. Maybe if I haven't written those things, even those changes might happen, but when I actually wrote them down, it probably increased the pace those changes were happening." (Interviewee 5, Paragraph 8)

It appeared that Weblog publishing encouraged students to adopt deep approaches to learning. In order to find something to write about in Weblogs, students had to focus their attention on their reading and were "pushed into deep thinking" about the content.

"... for me as a student, it was an opportunity to do something with the material aside from just reading it. So it was educational experience just writing itself... because it keeps me actively interested in what I am reading instead of sometimes when you read, you drift off, you lost your attention. But it keeps my attention." (Interviewee 3, Paragraph 68)

"... it helped me to look at the content even more questioning. Like I have to find questions here 'cause I

need to write something. I want to write something, I need to write something, I must find the question. I would look possibly more critically or try to find places where I would want to know something more or where didn't fit my experiences." (Interviewee 4, Paragraph 68)

### **Blogging offered a sense of community**

A second positive theme was the role of blogging in creating a sense of learning community and extended discussion in and outside of the class.

"My feeling is that you are part of a community. That was nice. You feel you are part of a group, part of an effort. You are actually included something. You don't feel you are alone, because even though you are new to the field, you are still struggling. And it is that feeling of cooperate that we are all struggling to understand this together ... At least it opened up that avenue that I wasn't going through, trying to understand it alone." (Interviewee 2, Paragraph 145)

"... (the instructor) is like connect other people together. She summarized what other people talked about. ... it is good because we normally don't talk about other people, but she talked about other people's log too so we also know what's going on. It brings a feeling that we now know all. We all belong to something, something we can interact with each other." (Interviewee 9, Paragraph 68)

"Sometimes reading what they had written and when I see them in person face to face, that would generate a conversation. Saying, "hey, that thing you wrote on Wednesday, that was very interesting", or maybe I have a counter point or ask them more about what happened to get more details. So maybe that's additional thing it did, was to open a door for additional communication face to face." (Interviewee 4, Paragraph 18)

### **Blogging offered exploration of new technologies**

Students were excited to be able to explore a new technology. Since most of the students were graduate students in instructional systems design, the Weblogging experience itself made the students excited in that it provided them a hands-on opportunity to fully explore an instructional technology.

"Because I never used Weblog before, it's been interesting. I want to use it to see how it is. I was pretty excited about using it because I never heard of it. Actually, I think the instructor told me that it has been pretty widely used for many other people but it's my first exposure to Weblog." (Interviewee 9, Paragraph 5)

"... since the course is an introductory course, most of the students have limited experience with instructional design. Then when we were introduced of this website, I think it's like something new. The Weblog provides space for you to write journals, I think that's good." (Interviewee 7, Paragraph 6)

## **Hesitancy or Negative Perceptions about Weblog Usage**

Apart from the positive feelings associated with the use of Weblogs, participants also expressed some hesitancies. For many, it was their first introduction to such a technology, and they experienced cognitive difficulties, which in turn resulted in stressful experiences for some students. Because of its highly individual and open nature, students had concerns about the environment, people's backgrounds, and the topics they chose to discuss. Main themes were related to uncertainty on Weblog usage and the need for more structure and guidance on their use.

### **Uncertainty about correct usage of Weblogs**

Because most of the students had never used Weblogs before, they mentioned their uncertainty about the usage of the technology. The fact that the Weblogs were a part of class requirement and would be graded at the end of the class exerted some amount of pressure on these students.

"I think there was pressure since it was the first time I was doing it. I was new to it. So there was pressure of doing it right and correct. Because it was new, I started slow and that kind of put some pressure. That kind of affected the course of my Weblogging. I wasn't doing it as early as I should." (Interviewee 5, Paragraph 42, 43)

Being exposed to Weblogs for the first time, some students had not yet understood how they could use Weblogs in their learning and thinking. Thus, they engaged in the activity for only the purpose of meeting the class requirement. For such students, Weblogging became a somewhat stressful experience.

“They can feel this external pressure to make these postings. And they just post something just meet the assignment but not reflecting, or they don’t really feel comfortable... (Interviewee 3, Paragraph 68)

“... if I have something interesting periodically, I can write something in the Weblog. But during a semester you are very busy with other courses, so it’s very stressful for me to figure out something to write there” (Interviewee 8, Paragraph 10)

Since the students had no idea of how to blog at the beginning of the class, they were expecting more “structures or guidelines” from the instructor about how to blog and what to blog.

“(We should be told) “you should post a paper about this topic, you should write about...” It’s a more structural way... One day you can write about schedule of writing, one day you can write about article, then you can write about discussion, then people will have an idea about how to post Weblog.” (Interviewee 9, Paragraph 111)

In absence of such guidelines and exact directions, some students felt lost and frustrated.

“There was no definitive, “this is what you have to do, I want you to write about this topic or tell me your thoughts on this in particular”. It was so open that when you have no limitations, it’s hard to figure out what you write, what should be public knowledge, and what you keep private, and what the instructor feels is meaningful as compared to what is nonsense. It was hard because there were no guidelines. So it was frustrating in that sense”. (Interviewee 6, Paragraph 9)

### **Role of prior experiences**

Students found their own backgrounds mattered in their practice of and ability to engage in blogging. The students in the class came from very different backgrounds and their levels of expertise with the course content varied. Students with relatively more experiences with the content were generally more active with Weblogging. However, those who were new to the field found it hard to create a topic or connect to their prior experiences as the more advanced students did.

“... at that time, I don’t have enough information or knowledge with me, so it’s very hard to find something to write there. Because I am a just a first semester student, it’s very difficult to write some topic in there.” (Interviewee 8, Paragraph 42)

The big differences in students’ background posed some difficulties for some students too because when the other people were writing or connecting with a totally unfamiliar context, they found such the content of such writing difficult to understand and apply to their own situation.

“... the gentleman I worked with was military based, so all of his analogies were based on military. And I am not a military person. I don’t necessarily understand military speak, so some of the things that he made correlations to I don’t understand at all because it’s not even in the realm of experience or understanding.” (Interviewee 6, Paragraph 59)

### **Concerns about privacy**

One student expressed doubts about the environment because of its potential to be viewed by anybody in the world. Theoretically, anyone, anywhere could respond to the writing on the Weblogs, and the student was particularly afraid of attacks on people’s ideas without proper reasoning and factual backup.

“Those who would offer “insights”, I put that in quotes, that was not founded upon anything as you can tell is almost, in one sense, reaction of deeply held personal beliefs which are fine as long as they would have the opportunity to reflect upon themselves, inspired by research, not just something you think is right or

wrong but why do you think is right or wrong. You disagree with me, that's fine, but tell me why. Just don't attach something and offer no reason as to your justification." (Interviewee 2, Paragraph 66)

The student was also concerned about the attention to be given to responses by unknown individuals, since he found it difficult to trust the sources, not knowing the background or expertise of the person.

"... if you don't know the person via the Weblog... to the depth and credibility of their arguments or their thought, then I was skeptical and I was skeptical posting mine 'cause somebody who had no, very limited knowledge would respond something then I don't know how much impact I should take that." (Interviewee 2, Paragraph 146)

Because of the public nature of Weblogs, most students expressed their concerns about the topic they wrote about. They chose not to blog anything personal, anything "too controversial" or too negative.

"... things I thought were going to be personal or group issues didn't go on the Weblog, so that being public forum, my thoughts I wanted it to be kind of profession orientation. If it was personal issues, personal problems, I chose to keep those." (Interviewee 4, Paragraph 60)

"I don't want to name names... I'm not going to make anybody feel bad or make it known to everyone else in the class that he/she was not doing what he's supposed to do. So I don't think it's the right place to do that. You know it's the same thing you air your dirty laundry in public. I don't think it's to be used as a sounding board for negativity in that sense..." (Interviewee 6, Paragraph 34)

### **Future steps**

Data analysis is still on-going and we intend to integrate and structure the emergent themes. Other primary themes were found but are still in need of further refinement and exploration. We present some of these other themes in overview as a precursor to more detailed forthcoming descriptions. These themes include:

- a. students' perceived comparison between Weblog and integrated learning environment such as WebCT, online
- b. discussion board, and listserv postings etc.
- c. students' points of view about the technical aspect of the Weblogging environment
- d. students' Weblog-visiting and -responding patterns
- e. students' interpreted purpose and their own usage of Weblogs
- f. different modes of students' demonstrated motivation types in relation to their emotional experiences of using Weblogs
- g. manifested learning curve of students' use of Weblog

### **Conclusion and Implications**

As a new and potentially powerful technology, the parameters and consequences of Weblog usage within higher education are still unexplored. Understanding graduate students' lived experience of their web logging activities has significant meaning for teachers, practitioners, and instructional designers to use Weblogs in classrooms. Especially, if Weblogs are to be used to support specific types of thinking or collaborative practices in educational settings, students' perceptions are paramount in informing both researchers and practitioners in further educational and exploratory implementations. We have presented some initial themes regarding the positive and negative lived experiences of students' Weblogging activities. This initial data supports the proposition that Weblogs can be used to support reflection individually; however, data also suggest that a more structured and guided introduction to the usage of this technology would be conducive to inculcating early and appropriate usage. Another initial theme suggests that Weblogs allowed students to structure and chart their learning progress. Building on this initial finding, it would be useful to identify additional aids to help students build and further structure their learning and reflective activities. For example, a combination of Weblogs and concept mapping activities might allow students to map their learning in a more concrete fashion, thereby linking individual posts into a more holistic picture of content learning. Although it appeared that Weblogs could potentially offer a sense of community, the threat of privacy invasion also loomed large for some students. Further exploration is need to achieve a balance in fostering community, while avoiding situations that students might find threatening or disengaging.

## References

- Andrusyszyn, M.-A., & Davie, L. (1997). Facilitating reflection through interactive journal writing in an online graduate course: A qualitative study. *Journal of Distance Education*, 7(1/2), 103-126.
- Bateson, G. (1973). *Steps to an ecology of mind*. London: Granada publishing limited.
- Biggs, J. (1987). *Student approaches to learning and studying*. Melbourne: Australian Council for Educational Research.
- Boud, D., Keogh, R., & Walker, D. (Eds.). (1985). *Reflection: Turning experience into learning*. London: Kogan Page.
- Brockbank, A., & McGill, I. (1998). *Facilitating reflective learning in higher education*. Suffolk: Great Britain: SRHE and Open University Press.
- Creswell, W. J. (1998). *Qualitative inquiry and research design: choosing among five traditions*. Thousand Oaks, CA: Sage Publications.
- Dewey, J. (1933). *How we think*. New York: D. C. Heath.
- FEU. (1981). *Experience, reflection, learning*. London: Department of Education and Science, Further Education Unit.
- Graybeal, J. (Ed.). (1987). *The team journal*. Portsmouth, NH: Boynton/Cook Publishers.
- Grennan, K. F. (1989). The journal in the classroom: A tool for discovery. *Equity and excellence*, 24(3), 38-40.
- Griffith, B., & Frieden, G. (2000). Facilitating reflective thinking in counselor education. *Counselor Education & Supervision*, 40(2), 82-94
- Harri-Augstein, E. S., & Thomas, L. F. (1991). *Learning conversations: The self-organized learning way to personal and organizational growth*: Routledge.
- Hettich, P. (1990). Journal Writing: Old Fare or Nouvelle Cuisine? *Teaching of Psychology*, 17(1), 36-39.
- Jasper, M. A. (1999). Nurses' Perceptions of the Value of Written Reflection. *Nurse Education Today*, 19(6), 452-463.
- Kelly, G. A. (1955). *The psychology of personal constructs, 1 and 2*. New York: Norton.
- Klemm, W. R. (1998). Eight ways to get students more engaged in online conferences. *T. H. E. Journal*, 26(1), 62-64.
- Kolb, D.A. (1976). *Learning style inventory: Technical Manual*. Boston: McBer
- Leung, D., & Kember, D. (2003). The relationship between approaches to learning and reflection upon practice. *Educational Psychology*, 23(1), 61-71
- Mezirow, J. (1990). *Fostering critical reflection in adulthood*. San Francisco: Jossey-Bass.
- Moon, J. A. (1999). *reflection in learning & professional development: Theory and practice*. London: Kogan Page.
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, London, New Delhi: SAGE Publications.
- Piaget, J. (1970). *Genetic epistemology*. New York: Columbia University Press.
- Rossmann, G. B., & Rallis, S. F. (2003). *Learning in the field: an introduction to qualitative research* (2 ed.). Thousand oaks, CA: Sage.
- Sorensen, E. K. (2004). Reflection and intellectual amplification in online communities of collaborative learning. In T. S. Roberts (Ed.), *Online Collaborative Learning: Theory and Practice* (pp. 242-261): Idea Group Pub.
- Stickel, S. A., & Trimmer, K. J. (1994). Knowing in action: A first-year counselor's process of reflection. *Elementary School Guidance & Counseling*, 29, 102-109
- Van Manen, M. (1997). *Researching lived experience: human science for an action sensitive pedagogy* (2nd ed.). London, Ontario, Canada: Althouse Press.