Chapter 2
Self-Study of Teaching and Teacher Education Practices Methodology and the Digital Turn

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This chapter addresses the digital turn in relation to self-study of teaching and teacher education practices (S-STEP) methodology. As we turn, we wonder how S-STEP methodology supports the work of teacher educators and what that support looks like particularly as we consider learning with technology and researching with technology. We know that S-STEP methodology can contribute to the professional work of teacher educators. We know that this methodology captures particular lives, experiences, and practice within the educational world. Consequently, we wonder how we might define, explore and consider how as teachers and teacher educators we can use this methodology when we engage with students in online environments and study our practice. We recognize that we have identified broad areas to cover – teaching students about technology, using technology to improve learning, and employing technology to support the study of our practice. While giving a nod to each area we focus specifically on the ways to use technology to strengthen and empower our research.

With the support of heuristic tools we articulate how intimate, virtual, thoughtful study using S-STEP methodology can support the work of digital/cyber/teacher-selves as teacher educators. Exploring these selves requires careful attention as we carry histories and backgrounds, including academic-selves and teacher-selves whereas virtual space adds cyberselves, digital-selves and so on. Navigating these spaces can be complicated at best. Indeed, utilizing more intimate methodologies allows us to uncover and excavate our tacit, professional knowledge developed in

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present moments (Stern, 2004) of practice that may remain hidden in other methodological approaches. S-STEP research involves understanding ourselves and experiences in relation to those we educate and, in turn, our imaginings about those students that our students will educate. The digital turn opens virtual pathways for scholarship and bring new perspectives to S-STEP work.

Critical Issues

In the next few pages we present a series of Learning-Log/Inquiry-Planner excerpts as examples, not as exemplars but rather as heuristic tools around which we can talk about aspects of S-STEP methodology and the digital turn. We intersperse these excerpts to offer a rough view of a S-STEP methodology-in-process. First we offer critical issues to consider.

From the outset we acknowledge that the digital turn does not alter our ontological stance or the systemic way we approach our work or the strategies we consider to collect information. Rather, the digital turn offers ways to engage more deeply to reveal our stance. Commitment to careful rigorous research is just that – careful, rigorous research – and should occur with or without technology. Commitment to rigor is a part of any strong study. Respect for participants and their contexts along with their words and perspectives is an imperative aspect of quality research – and in a time when social media affords us the opportunity to find out (potentially) everything about everybody, we must cautiously guard against believing all that we read and place an even higher value on triangulation, critical analysis and the strategies we select to examine our practice.

The intimate scholarship (Hamilton, 1995) of S-STEP holds an ontological orientation guided by a coming-to-know process grounded in dialogue (Pinnegar & Hamilton, 2009). Centered in the study of one's self-in-relation-to-Other – autobiographically, historically, culturally, politically – we attend to aspects both present and absent. The person conducting the research is both the focus and the author of the research, providing an intimate look into practice and experience. Not satisfied with the perspective of the distanced researcher, S-STEP researchers engage in their work with a desire to enact and bring different understandings to their practice experience. LaBoskey's (2004) S-STEP elements with attention to practice and improvement makes clear that engagement of self-in-relation-to-Other(s) can reveal professional identity and knowledge.

Two critical aspects distinguish S-STEP from traditional qualitative research. First, is the explicit ontological stance of the researcher. To enact good research, researchers must have a sense of their stance in the world, often just an implicit subtext. In S-STEP we expose that stance. Second, is the use of dialogue in the coming-to-know process. While other methodologies may give a nod to critical friends and relevant others, S-STEP researchers engage in dialogue recognizing it as the basis from which they assert authority of their claims and as a way to expose their understandings and actions. In turn, this becomes the way they develop

trustworthiness as researchers in the ways they process and develop their ideas and knowledge.

We wonder how the digital turn affects S-STEP. Realistically technological tools can only enhance S-STEP work, but how do researchers engage with it? Might there be concerns for the ways technology invades our lives? Prior to the emergence of technology as we know it today, Postman (1992) warned that surrendering our culture to technology served no good purpose and noted that in the burgeoning technopoly – a society that privileges efficiency –members consider the technical inherently superior (Postman, 1992. p. 51). As a voice in the wilderness, he warned that granting free rein to technology removes limits on the value of statistics. If new technologies alter our approach to interests (the things we think about) and the character of our symbols (the things we think with), they alter the nature of community (the arena in which thoughts develop) (Ahumada, 2011, p. 9). In fact, it seems that newer qualitative researchers do not see a world without digital texture (e.g., Wesch, 2010). Accepting this warning, we must give careful attention to what we do and how we engage in our research.

How can we make the digital turn with S-STEP and remain the careful rigorous researchers? We provide a description of ML's foray into digital research and learning as a way to explore the use of digital tools in S-STEP methodology.

First Excerpt from MLH's Digital Learning-Log

Two years ago I (ML) received an invitation to turn my graduate level multicultural class into an online class as a part of the university-wide initiative to develop and broaden our online presence in the twenty-first century. I resisted as my view of teaching only included face-to-face teaching and distance learning was just that – distanced. Still my personal commitment to questioning those stuck places in my practice and exploring the unknown inspired me to forge ahead into the experience. I asked myself question – does this work?

To systematically explore her work, ML completed the Inquiry Planner to support her inquiry. You can see below how she begins to engage in her exploration. Initially she offers reflections as she ponders her potential study prior to identifying a question or plan.

ML's Inquiry Planner Round 1

What am I interested in exploring? What do I identify as problems in my practice, where my actions do not seem to match my values? What issues do I want to further understand? What do I want to learn about these interests, issues, and concerns?

I am interested in exploring my experience as I engage in teaching courses online. I do not have a positive view of online learning and I wonder how I could encourage higher order thinking skills and develop a learning community online.

How could I explore these concerns and issues? What contexts might be most fitting? Who are the most appropriate participants – me? My students? My program?

I could explore these wonderings as I undertake my first online class. I could focus on interactions and my course design.

What strategies might I use? What would count as evidence?

I could collect artifacts from class, lesson plans, student input, and so on.

What work in educational research (or other research fields) will guide my inquiry? What beliefs are embedded in my questions? What values do I embody in my practice and research? How will I hold myself accountable? What do I expect to contribute to the knowledge base?

I could consider technology, digital, new literacies and more. I will bring my inquisitive nature to the study along with my commitment to understanding the development of my professional knowledge.

From Pinnegar, S. and Hamilton, M. L. (2009). *Self-Study of practice as a genre of qualitative research*: *Theory*, *methodology*, *and practice*. Dordrecht: Springer Press.

In the form above you can see her beginnings and desire to examine her practice. The invitation to engage in online learning from University colleagues sparked her interest in examining technology used in instruction, to enhance learning, and to support research. In contrast to Postman's concern about technical rationalism, S-STEP methodology situates technology as an opening rather than a constricting tool to explore practice.

In her second learning-log entry ML develops her ideas as she considers ways to propel her research forward.

Second Excerpt from MLH's Digital Learning-Log
To prepare I informally interviewed people I knew who had been students in and teachers of online courses. Most often instructors talked about rote, worksheety, lecturey classes with little inspiration for students. And students talked about rote, boring assignments where little engagement occurred between students and instructors. I also sought research articles but the "how-to's" were less than exciting and I had little interest in engaging in video work. While I heard much talk about computers I found little support in the literature for creatively teaching classes online in ways to that encourage students to engage in higher order thinking. I felt less than enthusiastic about these findings.

My next step for developing an understanding of online teaching included an Internet search for and a collection of syllabi from online classes focused on multicultural education but not limited to that content. I found a broad range of possibilities – and whether I recognized my discoveries to be appealing or did not, I reflected – always – about my students and content. I asked – how I might respond to these artifacts as a student? As an instructor? What might students' learn? How might I inspire change in thinking? In this step, the syllabi acted as faux critical friends, often used in qualitative research to foster deep/critical thinking as a researcher, to challenge me to think about my values as an instructor and my expectations for my students.

Upon completion of my review I decided on the organization, the texts, the assignments and more for my own class, I could see the glimmer of subtle differences between teaching and planning on/offline. How would I introduce myself? How would I manage the class? How would I interest them? Could I generate a class environment that countered the sense of difference? How might I encourage higher order thinking skills? How can I "know" students are learning?

Although we value technology used in instruction and technology used to enhance learning, here we focus on technology as support in the research process. In her learning-log entry you can see hints about how ML systemically explored possibilities in her course preparation. As an experienced teacher educator she gathered information to inform her thinking and she turned to the larger qualitative research literature to examine ways to develop her coursework and constitute a study.

In our search we found that computer-assisted data-gathering/data-analysis tools have been a part of qualitative research literature since the late 1980s with more studies centered on of teaching than studies describing methodological fit. The works of Tesch (1990), Mann and Stewart (2000), and Markham (1998) represent examples of early work that address the digital side of research. Current research texts also address ways to enhance research through technology (e.g. Fielding, Lee, & Blank, 2008; Marshall & Rossman, 2006).

Since the first text written about S-STEP methodology, teaching with technology and technology as a research strategy have been a part of S-STEP. For example, Johnston, Anderson, and DeMeulle (1998) established a multi-dimensional environment for themselves in which to communicate their teaching reflections. Others, like Thompson (2004) use online environments to capture their own and their students' thinking about teaching. Hoban (2006) makes a distinction between technology as a tool and technology as a social/cultural practice. In this chapter, however, we recognize technology as a support for researchers to access and explore constructions of knowledge. As a chat, blog, email, website, and more, technology can facilitate the research process.

Possible Data-Collection Strategies

As LaBoskey (2004, p. 817) notes S-STEP research has a mostly qualitative nature and uses mostly qualitative strategies with an S-STEP twist with many choices beyond the use of the inquiry planner – what can we do? We wonder which strategies will help us identify aspects of the practices we hope to explore. We know that our work requires vulnerability and a willingness to maintain integrity as we enact careful research (Matias, 2012). We also know we need to bring aesthetics, with its attention to meaning-making, into our methodological processes (Davidson, 2014). But what data collection strategies will support a strong S-STEP in its digital turn? To figure that out we identified frequently used strategies in published S-STEP research in books, journals and proceedings. Here we explore interview, observation, and fieldnotes/journaling tempering what we know as traditional qualitative researchers and S-STEP researchers with current information regarding the digital turn. We know that rather than generating new strategies or frameworks emerging technologies become silent supports and a critical friend to strengthen and deepen our work.

Interview

S-STEP researchers often use interviews, purposeful conversations (Bogdan & Biklen, 2006), to detail thoughts, words, language and context of colleagues, students and selves. Following a general qualitative format, researchers include the design of questions, note-taking/recording during the interview, careful analysis, and review of interpretation with participants. The ways we position ourselves – remembering to situate self, explore positionality, and walk alongside participants (even if the interviewee is the self) – bring a critical difference to S-STEP research. We counter queries to participants with queries to self about understanding, bias and perspective (although those queries most often occur after the interview not simultaneously.) In S-STEP research, researchers make explicit their position as researcher-participant in the study.

The digital turn affects the context and approach of the interview rather than the format. Currently researchers use Skype (Hanna, 2012), smartphone, email (Redlich-Amirav & Higginbottom, 2014) or other Social Mobile Devices (SMD) to collect data (Beddall-Hill, Jabbar, & Al Shehri, 2011) focused on social interaction. Skype enhances the online interview with its visual component (e.g., Holt, 2010; Redlich-Amirav & Higginbottom, 2014). Some authors use tables to depict ways digital technologies support research (e.g. Hookway, 2008). Attending to Skype, recorders, photos (Hanna, 2012), smart phones and tablets (Moylan, Derr & Lindhorst, 2015) enhanced by cloud technology that synchronizes devices make

digital interviews seem more participant-centered and flexible (Trier-Bieniek, 2012). Some researchers suggest that digital chatting in real-time on Facebook or Twitter may be appropriate as alternatives to face-to-face interviews (Redlich-Amirav & Higginbottom, 2014). Others suggest use of discussion forums to allow researchers (Skågeby, 2015) to nestle into the social space. These technologies evolve to support the exploration of experience and practices (Hammond, 2014).

Observation

Usually in S-STEP researchers make few changes to traditional observational strategies whether they observe students, colleagues or themselves. Importantly, the S-STEP researcher generally links the observation back to the self and practice in some way. Still, how do you set up observations in a digital world? A variety of technological tools exist to record action. Other possible strategies might include the observation of the usage of social information and communication technologies (SICT) like Twitter and Facebook (Beneito-Montagut, 2011). The SICT bring a twist to engaging in observations where researchers can observe a virtual, asynchronous space and customize their work to monitor internet usage and so on.

While not equivalent to the real events, digital recording preserves events in close to their original form. Usually researchers transcribe the information collected as evidence as well as a support in the analytic process. Additionally recording can serve as an external memory source that allows researchers to examine materials extensively and repeatedly. A digital record provides an exhaustive record that permits careful analysis of what happened. Furthermore continuous recording does not emphasize any specific aspects of life. While digital recordings capture the fine details of the setting and can allow researchers to return to the recorded scene, the best way to use recordings is in conjunction with other research strategies. In so doing, insights about the setting that might be overlooked because of their subtlety and/or the familiarity of those involved can be uncovered.

In S-STEP methodology, digital recordings often record teaching practice or particular events. Some researchers (e.g., Berry, 2007) have recorded class sessions with students to capture all elements – verbal/non-verbal – of conversation. Others, like the Arizona Group (2004) make recordings to document conversation. Analysis of recordings allows researchers to interrogate self and setting in exploration of practice and the knowledge around which the practice emerges. These recordings serve as springboards for practice-focused conversations, because living contradictions emerge when viewing self-in-action. Private, voluntary web-based groups and videoconferences via the Internet allows researchers to access broader audiences (Matthews & Cramer, 2008).

Notes in the Field

Fieldnotes and journaling are crucial elements of quality S-STEP. Many studies include fieldnote references but fewer sources include details about how to engage in fieldnote writing. Still, we know that notes written in a moment-of-time serve as an abbreviated version of what actually occurs. In S-STEP methodology the researcher might provide a more intimate, vulnerable description than found in more traditional fieldnotes. We include feelings and perspectives rather than set them aside, situating self against the context to explore and explain the practice being studied and the knowledge being generated (if that occurs). These fieldnotes might depict details about the setting and about students-teachers-Others involved along with a description of the self-in-relation-to-Other. Fieldnotes echo researcher development throughout the study. As a writing tool, journals offer places for writers to expose their personal feelings, interpretations, and judgments. Richardson and St. Pierre (2005) see that writing allows the writer to reveal a deep exploration of self situated in context. Certainly S-STEP researchers see journaling as a way to provide story and narration to experience (Wilcox, Watson, & Paterson, 2004).

In the digital turn blogs offer an alternative but more public record to journals/fieldnotes.

By author choice there may/may not be opportunities for response. Blogs offer a public space where a person can include details about daily experiences (Hookway, 2008). Some blogs offer a viable alternative but issues of privacy and trustworthiness remain. Craig (2013) points out the importance of digital storytelling and the ways these stories presented in multimedia fashion connect text to internet. In fact, stories of this sort can support teacher educators in the careful depiction of their experience as teachers and the professional knowledge they hold. Generally, if participants are willing, blogs allow all participants to comment almost immediately about what occurred/did not occur.

Focus Groups

Focus groups are not often used in S-STEP methodology because of the focus of self-in-relation-to-Other. If undertaken, they follow a traditional format that includes people unfamiliar with each other who are led in discussion by an appointed coordinator. Use of focus groups becomes valuable if you want to pilot ideas or gather information about different perspectives. If you want ideas to emerge from conversation, focus groups may work. Given the relational aspect of S-STEP, the lack of familiarity expected in focus groups can not occur. However, in S-STEP some researchers do use groups of colleagues or students or others to help them engage in the study of practice.

In group work, S-STEP researchers tend to combine focus group and interview design guidelines. When using groups in S-STEP methodology, the technical

aspects remain the same with added attention to self-in-relation-to-Other. As a true focus group involves heterogeneous grouping of people unfamiliar with each other, an online turn might involve groups organized by interest. A potential difficulty may come in the self that shows up at the group. The question is – will people represent themselves honestly or situate themselves in an alternative persona (Redlich-Amirav & Higginbottom, 2014)? In the digital turn Skype, Google, other similar formats would support this strategy. Importantly, foreknowledge of participants' technical backgrounds would be critical to facilitate smooth engagement so a check of equipment and prowess are recommended prior to the arranged meeting.

As ML selects which strategies best support her study she needs to consider the synchronous/asynchronous aspects of communication (Redlich-Amirav & Higginbottom, 2014). What is the value of synchronicity in her work? That is, must she be in communication with her participants in a real-time setting or can she offer better support to participants at their convenience.

After consideration of strategies, ML expanded her inquiry planner to include more detail. (NOTE: The beginnings of this study are presented as if they occur in a linear fashion, but in reality this is a rough description of the process that clearly must occur in a less predictable manner.

ML's Inquiry Planner: Round 2

1. What am I interested in exploring? What are my living contradictions? … I know that I must attend to my wariness about learning in this fashion – is this resistance to change or a knowing about learning? I must keep an open mind. Since the course focuses on diversity and social justice, how will the online environment affect the content and context?

   How could I explore these concerns and issues? What contexts might be most fitting? …

   To prepare I talked with people familiar with online learning/teaching. I found "how-to" research articles. I collected syllabi from online classes focused on multicultural education but not limited to that content with a broad range of results. I wondered, how might I inspire change in thinking? I could focus on my students/me/our learning/our environment.

2. What strategies might I use? What would count as evidence?

   We will write about our experiences, I will write about my experience and record my experience…. watching me and watching the students. I will work to create a strong course and attend to the teaching, the content, and more. In other words, the strategies will include fieldnotes, observation, activities used at strategic times, student/teacher narratives, dialogue, and interviews.

   Evidence can include: Plans, journals, dialogue transcripts, student/teacher narratives, interview transcripts, results of class activities.

What work in teacher education research (or other research fields) will guide my inquiry? …

In Teacher education + S-STEP literature; Used search engine to find literature.

Search the knowledge base: to gain an understanding of the struggles of the learning-to-teach process; aspects of the coming-to-know process; the use of and development of professional knowledge. I want to use technology to bring technology into the teaching of others….and myself. I found few real examples that would inspire higher order thinking skills. I found research that addresses online instruction, but fewer articles that explore the ways to engage technology to study technology in the classroom. I found many articles that focus on analysis using technology. I found little on the work of teacher educators and digital research strategies.

For ML, email interviews seemed like a good strategy to begin to query student learning and her own practice. Recognizing the importance of rigor and systematicity when focused on self, she plans to write careful notes, collect documents, and engage critical friends. ML also recognizes that whether engaged in digital or face-to-face contact, privacy issues must be a concern.

Evidence

In preparation for a S-STEP researchers generate questions and focus on issues to investigate. They also identify what evidence might reveal appropriate information. Sometimes the answer is more obvious than other times, but careful deliberation must occur. The claims may rest on the quality and veracity of the evidence collected. Therefore, researchers want to collect data that not only provides evidence of claims made, but answers questions others might raise either about the data or claim.

As researchers probe their questions and work out the forms of evidence they hope to find, use of critical others can support this process. These critical others might be skeptical colleagues or colleagues with whom you work and can sharpen, reshape and refocus questions in unpredictable ways that make for a more interesting, more significant, or stronger study. We notice that we need to be mindful of whether the evidence we collect will provide evidence from which we can address the question we asked. For these reasons, answering the question – what will count as evidence – requires thoughtful, careful deliberation and can ultimately impact the trustworthiness, rigor, and strength of the study.

> **Third Excerpt from MLH's Digital Learning-Log**
> Digitally I set up Voice Threads for short lectures where I talked to them as if they were in class. I specifically focused my lectures around the text and asked questions related to issues raised in the readings. Then I expected the students to listen and leave traces of themselves in the form of comments and questions on the voicethread. Students could build constructively on the comments of others. Sometimes I asked questions and sometimes I returned to answer their questions.
>
> During the introductory week we all introduced ourselves to each other using a voicethread prompt so they could see each person in class and hear their voices. I speculated that whereas older faculty may have difficulty with or hesitancy about the distance, this is a new age where folks are more comfortable with the online environs. I reminded myself to embrace that. In the class design I set a weekly routine – discussion, journaling, and case studies. Activities spread from the readings to film, to video clips to Internet searches. The final activity had the students engage in mixed media analysis of selected topics that connected to their educational interests to those issues addressed in class. They created amazing final products.

ML wonders how to engage in her analytic process. She knows that the data-collection-analysis-interpretation occurs in a recursive process from the onset of the research design. Whether a general qualitative research study or more specifically a S-STEP, these processes may be difficult to distinguish in the midst of the work. The analytic process generally involves the organization, classification, and categorization along with a search for and a synthesis of patterns in the recursive research process. As researchers progress, determining missing information may extend exploration in the study. Making-meaning from findings develops as each piece of information is gathered. This iterative activity occurs from data collection to a study's conclusion. The recursive nature of data collection-analysis-interpretation enlivens the research process and pushes toward the evolution of ideas to uncover possible insights and oversights. Moreover this process generates questions and points to new directions as well as inspires continued reading by researchers in related literature to shape ideas over time. Particularly important to S-STEP research is vigilance given to the process and attention to rigor. That means that whatever analytic processes are used – choice and process should be transparent.

But how is analysis affected by the digital turn? We know that many studies/texts address QDAS – Qualitative Data Analysis Software and its value. For example, Davidson and di Gregorio note that the digital turn now includes twitter, crowd-sourcing, and folksonomies – an-ask-and-see-who-knows approach (Davidson & di Gregorio, 2011a, b). Paulus and Lester (2014) discuss ATLAS.ti as a way to document analytic decisions in transparent and systematic ways. Some researchers even speculate that the use of QDAS encourages researchers to disclose their ana-

lytic processes and how they substantiate their claims (Odena, 2011). Others, like Gilbert, Jackson, and di Gregorio (2014) offer warnings about attention to detail when using QDAS. In their work, Jorrín-Abellán, Rubia-Avi, Anguita-Martínez, Gómez-Sánchez, and Martínez-Mone (2014) recommend taking up the QDAS as critical friends pointing to the importance of accounting for "what the eye does not see". They suggest that creativity regarding data analysis may strengthen the rigor of our work. Regardless of the approach to analysis, Wang, Wiesemes, Gibbons (2012) encourage digital fluency in the recognition that learning takes place in complex 'live' contexts. Further, Fielding (2014) points out that the site analytics like Facebook Insights, Hootsuite, GoogleDocs, Socialbakers, Tweetreach, and Wordpress Analytics can now enhance our analytic processes by enable users to explore site demographics.

And how will ML interpret what she thinks she sees? She knows that interpretation has all to do with your ontological stance made transparent by the theoretical frame with no one way to analyze or interpret her work. Furthermore she knows that staying true to your theoretical framework and being explicit about what you do and how it fits in the broader literature and understanding of the research undertaken.

Authority of Experience

As Munby and Russell (1994) assert, the authority of experience emanates from the, "knowledge that resides in action" (p. 92) and too often gets discounted around the thinking and practice of teaching. Berry (2007) suggests that authority of experience captures, "the status of knowledge derived through personal experience, compared with other, traditional forms of authority such as the 'authority of position' or the 'authority of scholarly argument'" (p. 12). Our interpretation should reveal our authority clearly as we present our findings and provide our evidence. As S-STEP researchers we take an ontological stance to understand and improve practice. We are also determined to produce authentic, rigorous, trustworthy accounts of situations that are problematic, troubling, and curious. As a result, we need to attend carefully to the accounts of practice we capture and the technology of the digital turn supports our work.

Dialogue is an important facet of analysis in S-STEP research as it is in all aspects of this work. Whether engaged in formal collaborative S-STEP or working with critical others to support an individual S-STEP, dialogue occur. Skype, Google Hangout and sites like this facilitates these connections. We find the exact steps are secondary to the commitment for dialogue and transparency in our work.

Since analysis and interpretation are part of the iterative process each steps opens our work into deeper consideration. We are mindful that if we connect a piece of data with an assertion in analysis, readers should be able to connect our interpretation with our action. A significant difference between the general qualitative research and S-STEP in analysis/interpretation centers on the self-relation-to-Other. In S-STEP we complicate the self and situate the self-in-relation-to-Others dialogue to extend our iterative collection-analysis-interpretation process.

COMPLETED Inquiry Planner Reconsidered Round 3

What am I interested in exploring? What are my living contradictions? What issues do I want to further understand? …

<u>Beginning</u> … Given that I want to prepare the best students possible to reach the unseen children, what could I do to examine my practice? How could I inform myself about ways to improve my practice? How could I improve what needed improvement? What is a teacher educator to do? I examined my perspectives and considered my researcher beginnings. Unfortunately, most of their comments seemed to center on me as a person rather than any particular teaching strategy or idea. After reviewing the literature and the course content, I attempted to ascertain the breadth of student learning/my own learning. I wondered about how I could encourage students to engage wholeheartedly in the online classwork? Could I do something that creates a "need to know" for students?

RECONSIDERATION

In the reconsideration of this study, about a month after initiating it, I return for the first time to ask myself questions from the analytic frame. I return several times throughout the semester to ponder (not always at great length) the questions, my ideas and my developing understanding. Each time I return I focus on improvement of my teaching practice in my classroom. Each time I query myself about contradictions and tacit assumptions within my actions.

Analytic Frame

Purpose: My purpose here is to improve my practice as an instructor of students who want to teach. I also want to align my practice (action) with my beliefs. I plan to situate my understandings of theory next to my understanding of my practice to reveal my living contradictions. I plan to present the study through my own eyes and situate my practice within the classroom context. The purpose of my study is to explore the tensions between my theoretical perspective, my methodological choices and my pedagogical approach.

Story of self: I notice in my first reconsideration that I seem heavy on the "I" of the study and light on the student input. What about how the students or context of this class differed? Do you want to change things in a vacuum or find out more about them? I ask myself each time: Am I reframing issues? Am I engaged in responsive practice? Where are my living contradictions? How am I grappling with issues?

How could I explore these concerns and issues? What contexts might be most fitting? …

Beginning Since I believe that my materials are most current, I will formulate a plan to work with all students generally and identify willing students to who will discuss experiences as online learners – in style, in design, in content. I will open the discussion to all students who take the course. My current idea is to focus the course in a narrative direction, encouraging the creation of narratives that will describe student experiences as learners as well as my own. The context will be my summer classes. I will engage my students in the work as well as invite a graduate student to participate with me.

RECONSIDERATION

(Interestingly my online class composition had more diversity than my face-to-face classes with African-Americans/Asian-Americans/Hispanic/LGBTQ representation. I wondered about that but came to no conclusions.) My design focuses on my students and me. I planned to record my actions digitally, collect student work online, keep close records on actions, establish critical friends for dialogue, and keep documents, like lessons. I maintained this design. Over time I recorded my work with detailed notes recorded digitally. Often I asked my critical friends for recommendations and support. I am always (as much as possible) vigilant with regard to my overly idealistic views.

Analytic Frame S-STEP definition
I defined S-STEP using the works of Hamilton and Pinnegar 1998; Pinnegar & Hamilton, 2009 and LaBoskey, 2004. That is S-STEP is, "a methodology for studying professional practice settings and identify its most salient characteristics as 'self-initiated and focused; …improvement-aimed; …interactive; …[that uses] multiple, mainly qualitative, [strategies]; …a validation process based in trustworthiness" (LaBoskey, 2004, p. 817). Moreover, I recognize S-STEP as a methodology with more attention on the stance one takes than on specific strategies involved in the undertaking" (Berry, 2007). As I engage in my study, I attempt to stay steady in the S-STEP and stay true to these definitions as work progresses.
What strategies might I use? What would count as evidence?

Beginning We will write about our experience, I will write about my experience and students, will write about their experiences…. watching me and watching the students. I will explore the course, the teaching, the content, and more. I will invite the students to write. In other words, the strategies will include fieldnotes, observation, activities used at strategic times, student/teacher narratives, dialogue, and informal interviews. Evidence: Plans, journals, dialogue transcripts, student/teacher narratives, interview transcripts.

RECONSIDERATION

In my initial reconsideration I affirm most of strategies listed. I kept records of events. I used voice thread to monitor the ways students engaged with the

(continued)

topics and developed/elaborated their thinking. Returning to reconsider my work I asked myself if data I collected provided evidence for the understandings of the online experience. I wanted to insure against my work looking less than rigorous.

Analytic Frame

S-STEP methodology My methodology includes traditional qualitative research strategies like interviews, videos and observations. Plus, I include detailed journal entries that depict my own experiences. I kept those notes daily, to provide as descriptive a note-set as possible.

Research Practice To insure the strength of my research practice I established a critical friend network to monitor my work (including the software). I used former students, close colleagues, and distant colleagues for dialogue.

Evidence My evidence comes from the materials and notes and digital sources collected during the study. I intend to include strong excerpts from data to demonstrate connections between data collected and data analyzed. At my points of reconsideration I question my data collection and data analysis process. Use GoogleDocs for pre/post tests and other documentations.

What work in teacher education research (or other research fields) will guide my inquiry? …

Beginning Schwab, constructivist teacher education…curriculum theory, stuff about beginners, etc. Narrative. Knowledge Base: an understanding of the struggles…. both ends of the spectrum…. of the learning-to-teach process; role of narrative in constructing a need to know; the use of and development of personal practical knowledge; Using narrative as a strategy…. will allow me to test if narrative is a fundamental way to "see" in the learning-to-teach process.

RECONSIDERATION

At the initial reconsideration, I know I need to return to Fenstermacher and Greene. I also want to return to Clandinin and her colleagues. While I am not doing narrative inquiry, the scholars in narrative inquiry offer powerful ways to look at text. In my reconsideration process over time I come to believe more strongly in the power of narrative to help student explore their knowledge about teaching.

Analytic Frame

Authority of experience As I analyze and consider my experience I connect my assumptions with prior experience along with data collected.

Literature I situate that information alongside literature from previously completed teacher education research that I continue to complete. Further, I insure that I situate my own practice and ideas within this context. As a

researcher, I set my authority as an experienced teacher educator against my experience as a teacher. Sometimes I use my authority of my years of experience to obfuscate the questions about my teaching. Just because I have experience as a teacher doesn't make me a good teacher and I must attend to that possible bias.

Ethical Action: Most important at this point is the query into my actions and whether or not they are ethical. I believe I have acted with integrity and in a trustworthy manner as I have interacted with my students and my critical friends. I believe I will present my work as true to my experience. While I cannot insure that others will find my work trustworthy. I plan to present my research, my findings, and my processes in a way that support readers in the believability of findings.

(Story of self) In my reconsiderations I attempt, each time I return to reconsider my study, to insure that that I see my self in the midst of the work, but more my-self-in-relation-to-Others than a self that seems center stage to the action. I want my experience to be alongside the practice and my students and so on.

Trustworthiness

As scholars in the digital turn we must ask good questions regarding ethics and new technologies (Paulus, Lester, & Britt, 2013). Understanding issues of privacy and distinctions between private and public spaces is critical (Redlich-Amirav & Higginbottom, 2014). Issues of confidentiality and ways to protect participants are on-going (Beneito-Montagut, 2011) and all strategies must be probed as we consider how to best represent those with whom we work. For ML she found so many perspectives that it became difficult to identify the best avenues. She opted to focus on her practices and avoid the use of student work because of privacy issues.

In the digital turn issues of trustworthiness and ethical choices are primary (Bassett & O'Riordan, 2002; Odena, 2013) throughout the research process. The overriding concern centers on quality research. Davidson and di Gregorio (2011a) have speculated across a variety of articles about the ways to approach the virtual site of study – and they encourage researchers to move carefully from a web of documents to a web of data (p. 636). Furthermore, they (2011b) caution against casual interactions with virtual data and point toward the critical nature of ethics in this work. Odena (2013) encourages researchers to work carefully and use software to tell a trustworthy, convincing and useful story. Hertlein and Ancheta (2014) find that consideration about whether to use/not use technology less important than recognizing the ways in which technology complicates relationships – with issues of distance, trust, and clarity in message and emotion. Attending to these issues is critical to rigorous work.

Summary

ML employed technology in instruction and learning and research. For her the experience had many layers and complexities. In this chapter we provided a discussion and example of the digital turn in S-STEP research. As we made apparent in the last few pages we see technology as a silent support. With a commitment to careful rigorous research we believe attention to trustworthiness, integrity and transparency. Commitment to rigor should be a part of any researcher's stance. Care for participants and contexts is an imperative aspect of quality research and we must take great care to strengthen our trustworthiness and transparency at every turn.

References

Ahumada, J. (2011). *The road to unknowing: Identity in postmodernity*. Downloaded from http://internationalpsychoanalysis.net/wp-content/uploads/2011/09/AhumadaIdentityinpostmodernity.pdf

Arizona Group. (2004). The epistemological dimensions and dynamics of professional dialogue in self-study. In J. Loughran, M. L. Hamilton, V. LaBoskey, & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 1109–1167). Dordrecht, The Netherlands: Kluwer Publishers.

Bassett, E., & O'Riordan, K. (2002). Ethics of Internet research…. *Ethics and Information Technology, 4*(3), 233–247.

Beddall-Hill, N., Jabbar, A., & Al Shehri, S. (2011). Mobile devices as tools for qualitative research in education…. *Journal of the Research Center for Educational Technology, 7*(1), 67–89.

Beneito-Montagut, R. (2011). Ethnography goes online: Towards a user-centred methodology…. *Qualitative Research, 11*(6), 716–735.

Berry, A. (2007). *Tensions in teaching about teaching: Understanding practice as a teacher educator*. Dordrecht, The Netherlands: Springer.

Bogdan, R., & Biklen, S. (2006). *Qualitative research for education: An introduction to theories and methods* (5th ed.). Needham Heights, MA: Allyn & Bacon.

Craig, C. (2013). Opportunities and challenges in representing narrative inquiries digitally. *Teachers College Record, 115*(4), 1–45.

Davidson, J. (2014). Bruce's magnificent quartet inquiry, community, technology and literacy…. *E-learning and Digital Media, 11*(5), 475–481.

Davidson, J., & di Gregorio, S. (2011a). Qualitative research and technology: In the midst of a revolution. *The Sage Handbook of Qualitative Research, 4*, 627–643.

Davidson, J., & di Gregorio, S. (2011b). Qualitative research, technology and global change. In N. K. Denzin & M. D. Giardina (Eds.), *Qualitative inquiry and global crises* (pp. 79–96). Walnut Creek, CA: Left Coast Press.

Fielding, N. (2014). Qualitative research and our digital futures. *Qualitative Inquiry, 20*(9), 1064–1073.

Fielding, N., Lee, R., & Blank, G. (2008). *Handbook of online research methods*. Thousand Oaks, CA: Sage.

Gilbert, L., Jackson, K., & di Gregorio, S. (2014). Tools for analyzing qualitative data. In Koehler, Mishra, Kereluik, Shin, & Graham (Eds.), *Handbook of research on educational communications and technology* (pp. 221–236). New York: Springer.

Hamilton, M. L. (1995). Confronting self: Passion and promise in the act of teaching or my Oz-Dacious journey to Kansas! *Teacher Education Quarterly, 22*(3), 29–44.

Hamilton, M. L., & Pinnegar, S. (1998). Introduction. In M. L. Hamilton (Ed.), *Reconceptualizing teaching practice: Self-study in teacher education* (pp. 1–4). London: Falmer Press.

Hammond, S. (2014). Enhanced eBooks and multimodal publishing…. *Qualitative Research, 14*(4), 442–458.

Hanna, P. (2012). Using Internet technologies (such as Skype) as a research medium. *Qualitative Research, 12*(2), 239–242.

Hertlein, K., & Ancheta, K. (2014). Advantages and disadvantages of technology in relationships…. *The Qualitative Report, 19*(11), 1–11.

Hoban, G. (2006). *The missing links in teacher education design: Developing a multi-linked conceptual framework* (Vol. 1). Dordrecht, The Netherlands: Springer Science & Business Media.

Holt, A. (2010). Using telephones for narrative interviewing: A research note. *Qualitative Research, 10*, 113–121.

Hookway, N. (2008). 'Entering the blogosphere': Some strategies…. *Qualitative Research, 8*(1), 91–113.

Johnston, J., Anderson, R., & DeMeulle, L. (1998). Prospects for collaborative self-study on the internet. In M. L. Hamilton, S. Pinnegar, T. Russell, J. Loughran, & V. LaBoskey (Eds.), *Reconceptualizing teaching practice: Self-study in teacher education* (pp. 208–223). London: Falmer Press.

Jorrín-Abellán, I., Rubia-Avi, R., Anguita-Martínez, E., Gómez-Sánchez, A., & Martínez-Mone, A. (2014). Bouncing between the dark and bright sides can technology help qualitative research? *Qualitative Inquiry, 14*(7), 1187–1204.

LaBoskey, V. (2004). Moving the methods of self-study research and practice forward: Challenges and opportunities. In J. Loughran, M. L. Hamilton, V. LaBoskey, & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 1169–1184). Dordrecht, The Netherlands: Kluwer Publishers.

Mann, C., & Stewart, F. (2000). *Internet communication and qualitative research: A Handbook for researching online*. Thousand Oaks, CA: Sage.

Markham, A. (1998). *Life online: Researching real experience in virtual space* (Vol. 6). Lanham, MD: Rowman Altamira.

Marshall, C., & Rossman, G. (2006). *Designing qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.

Matias, C. (2012). Beginning with me: Accounting for a researcher of color's counterstories in socially just qualitative design. *Journal of Critical Thought and Praxis, 1*(1), 21–143.

Matthews, J., & Cramer, E. (2008). Using technology to enhance qualitative research…. *The Qualitative Report, 13*(2), 301–315.

Moylan, C., Derr, A., & Lindhorst, T. (2015). Increasingly mobile: How new technologies can enhance qualitative research. *Qualitative Social Work, 14*(1), 36–47.

Munby, H., & Russell, T. (1994). The authority of experience in learning to teach: Message from a physics methods classroom. *Journal of Teacher Education, 25*(2), 89–95.

Odena, O. (2011). *To use or not to use software?* Paper presented–BERA annual conference, London.

Odena, O. (2013). Using software to tell a trustworthy, convincing and useful story. *International Journal of Social Research Methodology, 16*(5), 355–372.

Paulus, T., & Lester, J. (2014). ATLAS.ti for conversation and discourse analysis studies. *International Journal of Social Research Methodology*, (ahead-of-print), 1–24.

Paulus, T., Lester, J., & Britt, V. (2013). Constructing hopes and fears around technology: A discourse analysis. *Qualitative Inquiry, 19*(9), 639–651.

Pinnegar, S., & Hamilton, M. L. (2009). *Self-study of practice as a genre of qualitative research: Theory, methodology, and practice* (Vol. 8). Springer Science & Business Media.

Postman, N. (1992). *Technopoly: The surrender of culture to technology*. New York: Alfred A. Knopf.

Redlich-Amirav, D., & Higginbottom, G. (2014). New emerging technologies in qualitative research. *The Qualitative Report, 19*(26), 1–14.

Richardson, L., & St. Pierre, E. (2005). Writing: A method of inquiry. In N. Denzin & Y. Lincoln (Eds.), *SAGE handbook of qualitative research* (3rd ed., pp. 959–978). Thousand Oaks CA: Sage.

Skågeby, J. (2015). Interpreting online discussions. *The Qualitative Report, 20*(1), 115–129.

Stern, D. (2004). *The present moment in psychotherapy and everyday life*. New York: W.W. Norton & Company.

Tesch, R. (1990). *Qualitative research: Analysis types and software tools*. London: Psychology Press.

Thompson, S. (2004). Dishing discussion online…: Real e-different and yet virtual e-included. In D. Tidwell, L. Fitzgerald, & M. Heston (Eds.), *Journeys of hope: Proceedings of the fifth international conference. Herstmonceux Castle, East Sussex, England* (pp. 237–240). Kingston, ON: Queen's University.

Trier-Bieniek, A. (2012). Framing the telephone interview as a participant centred tool. *Qualitative Research, 12*(6), 630–644.

Wang, R., Wiesemes, R., & Gibbons, C. (2012). Developing digital fluency through ubiquitous mobile devices. *Computers & Education, 58*, 570–578.

Wesch, M. (2010). *Kansas State digital ethnography project*. http://mediatedcultures.net

Wilcox, S., Watson, J., & Paterson, M. (2004). Self-study in professional practice. In J. Loughran, M. L. Hamilton, V. LaBoskey, & T. Russell (Eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 273–312). Dordrecht, The Netherlands: Kluwer Publishers.