

# Many Miles and Many Emails: Using Electronic Technologies in Self-Study to Think About, Refine and Reframe Practice

Amanda Berry and Alicia R. Crowe

## Introduction: Finding a Place to Start

We met several years before our professional collaboration began. Both of us are experienced teacher educators, although we work in different countries (Mandi in Australia and Alicia in the USA), and in different discipline areas (Mandi in biology and Alicia in social studies). From our first meeting we knew that we had a lot to talk about, that we were able to communicate well with one another and that we would love to work as collaborators. But what were we to do with our locations on different continents and at least 10,000 miles between us? After a few years of once yearly meetings at the American Educational Research Association (AERA) conference and as our collegial friendship grew, we began to realize that we had a lot to gain as teacher educators by working together. So, Alicia sent the following invitation to Mandi:

*Hi Mandy. I hope you are doing well. I have thought of you several times this summer but have been away a lot. Have you finished your PhD?*

*How did it go? How's the family doing?*

*Professionally I would love to get started on a dialogue and try to do something together this year. (August 16, 2005) (Editor's note: All email excerpts are verbatim and the typical notation (*sic*) of any errors in spelling, grammar, and so on has not been used so as to better maintain the voices of the authors, and more clearly illustrate the natural use of ICTs.)*

On August 17, 2005, Mandi replied,

*Hey Alicia,*

*Great to hear from you. I took my PhD thesis to the bindery today. . . bit scary!*

*Family ok. Max (son) has had glandular fever for last 7 weeks... So we are all living life a little differently...On other matters I would really love to have a conversation about our work; lots of good reasons for that. My students are out on practicum at the moment and when they come back have 6 weeks before they finish their teacher ed program... How shall*

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A. Berry (✉)

Monash University, Wellington Road, Clayton, Victoria 3800, Australia  
e-mail: amanda.berry@education.monash.edu.au

*we start? Are you about to start the year? What are you teaching? Are you going to study part of your practice?  
I'm ready to talk!*

On August 18, 2005, Alicia responded,

*I am about to begin classes and always have loads of teacher ed stuff on my mind and no one who likes to study it to discuss things with. We begin classes on the 29th. I haven't made a decision on what to study yet. Ideas? :-) . . . I think we should just start a regular email dialogue. That would also provide a great set of data for us to analyze later – not to mention just being able to share our struggles and triumphs with someone who has similar interests.*

And so it began. Our email collaboration, starting in 2005, evolved from these enthusiastic but tentative first steps into a productive, continuing research program. Despite our physical separation, we have developed and sustained strong personal and pedagogical connections that have supported each of us in our work as self-study researchers and teacher educators.

We found that we shared similar concerns and experiences and it was these similarities and experiences that helped us begin our conversations. However, even though our overall focus was the same, that is, the education of prospective teachers, our immediate focal points were different given our different locations, different discipline areas and different timing of the academic year (for example, Alicia is beginning a semester when Mandi is halfway through). Nevertheless, we found that we could offer each other ideas and insights from our work that were useful and that carried our collective thinking forward into bigger issues that were located underneath our initial questions.

Over the past 3 years our questions have developed into research agendas and our research agendas into a research program, resulting in stronger understandings of our purposes and frameworks as teacher educators, as well as tangible products such as conference presentations and publications. Interestingly, what also has emerged over time is a recognition that the process of working together to better understand practice is a messy one – and one that does not become less messy over time. Although we have developed more complex understandings of our work and have worked out more organized ways of articulating our ideas, we find that our thinking continues to develop in non-linear and recursive ways. The complexity of our conversations is reflective of the complex nature of teaching and learning and teasing out this complexity through discussion is what we feel we are better at now and more confident to do.

In this chapter we describe and discuss our collaboration in terms of three particular aspects: (1) the development of our critical friendship; (2) the development of our understanding of teaching about teaching; and (3) our evolving understanding of the ways in which information and communication technologies (ICTs) can be used as tools for self-study research. Through this chapter we explore the nature of our critical friendship as we have built a shared research program across the miles for the development of our knowledge of practice and ourselves as teacher educators. We begin by examining some of the literature relevant to our work.

## **Self-Study as Tool for Researching Practice**

### ***Self-Study as a Methodology***

Self-study offers a framework for inquiry into one's beliefs and practices as an educator with a focus on better understanding the interaction between beliefs and practices for the improvement of teaching and learning. Self-study as a methodology draws on a range of methods for the study of professional practice settings (Pinnegar, 1998) that is driven largely by the concerns of teaching, the development of knowledge of teaching and the development of learning (LaBoskey, 2004). Bullough and Pinnegar (2001) identify narrative methods, such as autobiography and correspondence as predominant choices among self-study researchers as these forms of representation tend to best capture concerns with 'self.'

### ***Self-Study as Collaboration***

Traditional views of collaboration in educational research position the researchers as "looking outward together at the same data set" (LaBoskey, 1998, p. 151). Typically in this form of collaboration, the researchers are interacting around an external data set, with their ultimate goal being to reach consensus on a final product, usually prepared as a univocal text. On the other hand, collaboration in self-study research actively seeks interaction between the researchers that both promotes diversity of opinion around the data set and makes the researchers' interactions "the data set, or at least a part of it" (LaBoskey, 1998, p. 151).

Collaboration is a defining characteristic of self-study (Lighthall, 2004). Enlisting colleagues to collaborate in studies of teaching practice offers insights into experience that are not possible when working alone (Brookfield, 1995). When colleagues share critical conversations about practice, new possibilities for practice can emerge, as well as new ways to analyze and respond to problems. At the same time, professional knowledge and expertise can be developed and shared as collaborators learn to articulate their insights and reframe their conceptions of practice. This is particularly important in the field of teacher education where the professional knowledge base of teaching about teaching has only recently begun to develop (Berry, 2004; Korthagen, Loughran, & Lunenberg, 2005).

Collaboration in self-study draws together different groups of people (e.g., colleague/colleague, teacher(s)/student(s)) and makes use of a range of interactive modes (e.g., face to face, on-line) depending on the purpose of the study and the location of those engaged in the research. Collaboration can be "contrived" (Hargreaves & Dawe, 1990, p. 227), in which participants are brought together through some external, formalized structure, such as mandated meetings, or self-selected, emerging naturally from participants' needs and interests. One mode of collaboration is that which aims to bring together self-study researchers separated by geographical distance. Examples of long-distance collaboration among

self-study scholars include colleagues working within their own country (e.g., Guilfoyle, Hamilton, Pinnegar, & Placier, 1995) and those working internationally (e.g., Dalmau & Guðjónsdóttir, 2000; Freese, Kosnik, & LaBoskey, 2000; Russell & Schuck, 2005). The long-distance collaborative relationship described in this chapter has emerged through mutual recognition of our shared concerns about how to better understand and develop our pedagogy as teacher educators and improve the quality of the learning-to-teach experience of prospective teachers in our respective classes.

We view our collaborative relationship as a partnered practice of critical reflection; that is, one in which partners engage each other in ways that promote the critical reflection of each. For us, critical reflection involves deeply questioning, analyzing and reconsidering experience within the broader contexts of our work. Similarly, Loughran (2004) notes that accessing a critical friend can lead to a reframing of one's thinking through opportunities to reconceptualize new approaches to practice and new possibilities for students' learning. We believe that our critical friendship leads us to challenge our taken-for-granted assumptions, and in so doing, build both our individual and collective knowledge of practice.

Our collaboration is not only long distance but also long-term. East and Fitzgerald (2006) emphasize the importance of collaborators cultivating appropriate conditions if a long-term self-study partnership is to work successfully. These conditions include allowing time for the collaboration to develop (East and Fitzgerald suggest that the establishment of a productive relationship takes about 1 year) and collaborator vulnerability (that is, the preparedness of collaborators to think of themselves in new ways, even when those ways may be unpleasant or uncomfortable). Many examples of long-term self-study collaborations can be found in the literature (e.g., Berry & Loughran, 2002, 2005; East & Fitzgerald, 2006; Guilfoyle et al., 1995, 2004; Kosnik & Beck, 2005, 2006; Russell & Bullock, 1999); this is not surprising given the personal nature of the work, and the ongoing, developmental nature of the learning involved. However, a substantive challenge for long-term collaborators is finding ways of maintaining a research program that keeps the motivation to pursue research into practice fresh and stimulating and continues to push new boundaries in pursuing deeper understandings of practice.

### *ICTs as Tools for Self-Study*

Information and communication technologies (ICTs) offer self-study researchers an array of tools and practices that can be used to facilitate both the sharing of experience and the construction of knowledge of practice. In particular, Hoban considers the use of ICTs as a means of “representing, accessing, analysing, retrieving, sharing, communicating and editing data” (2004, p. 1039) to be quite important in self-study. Electronic communication technologies can work in either a synchronous or an asynchronous manner. Synchronous communication involves users interacting in real time as they are on-line at the same time (e.g., through instant messaging

technologies such as iChat or Skype). In asynchronous interaction, users are not on-line at the same time and interactions are usually conducted in text format (e.g., discussion forums and blogs). Email is an example of an ICT that can be used both synchronously and asynchronously depending on the location and availability of the users. Email is the electronic tool of choice for many self-study researchers since it offers a means of both representing experience for others and reflecting on experience through storing and revisiting email communications. Hence email functions as a tool for both framing and reframing practice (Barnes, 1992; Schön, 1983).

For self-study researchers, ICTs can both limit and enhance their work. A limitation is that since both sender and receiver may be selective in what they choose to communicate or respond to, the level of researcher vulnerability so important in self-study can be reduced. We see this as different from a face-to-face situation because in working over a distance researchers do not have access to direct observation of each other's daily practices and interactions with students. One's personal agenda could limit the range of ways in which one reflects on practice since the other is not there to draw from the same set of shared experiences. On the other hand, an enhancing aspect of ICTs is that in communicating with another, particularly through text, users are forced to articulate their thinking, and through sharing make their thinking public, an essential component of self-study (Hoban, 2004).

In our collaborative self-study work, we have engaged in both synchronous and asynchronous interactions. Initially, our predominant means of communication was via email, although we have experimented with a range of tools, depending on the purpose of our communication and as we have become better informed about the range of possible technologies. (We discuss the evolution of our communication processes in more detail later in the chapter.) A unique aspect of our collaboration is that our partnership has been sustained mostly through electronic communication. We rarely interact face to face as our schedules and personal situations make it thus far extremely difficult.

## **A Story of a Long-Distance Self-Study in Perpetual Motion**

Our long-term self-study collaboration has resulted in developing our understandings of our critical friendship, of teaching about teaching and of the ways in which ICTs can be useful tools for self-study researchers. The process of our collaboration, as with any such process, is complex and recursive. In this section, we address the first two aspects of our learning journey using narrative to illustrate the evolving nature of our critical friendship and our learning about teaching about teaching.

### ***The Beginning***

As highlighted in the introduction to this chapter, turning our collegial friendship into research took a few years. As we began, one of the first challenges we faced was deciding how to focus our inquiry. Our initial emails provided an avenue to

both share our ideas and keep a record of our emerging relationship and interests. Initially our impetus for collaboration was conceptualized around the broad frame offered by self-study: How do I improve my practice? How do I help my students improve the quality of their learning about teaching? We wondered if we should begin with a more narrow focus or just write to each other and see what happened. In the end we just began to write. Our email exchanges helped us identify questions about practice that we wished to address in our self-study. These questions emerged from our experiences of teaching student teachers.

At first, we shared questions and experiences that allowed us to begin to understand each other's thinking. Interestingly, the questions or problems we shared in those initial exchanges did not become the foundation for our collaborative research; rather they seemed to act as the means for us to become acquainted with each other pedagogically. For instance,

*Here's one possible idea...just to start??? When my students start back I am concerned about how do I re-engage them with thinking about teaching and learning? They have finished their last practicum and while there is still 6 weeks of uni, they feel like it is over for them and they are teachers now. I have some interesting things to do with them but I know that getting their minds on to pedagogy will be really hard work. Does this happen for you? What do you do? What will be issues for the group you are starting with? (Mandi, August 21, 2005)*

*That is definitely a problem. Mine are like that when they come back from their fall practicum and still have a five week course before their full-time spring placement. . .I have been trying to figure out what to focus on this year, I am interested in how my students come to understand themselves as teachers (social studies in particular) as they go through our course and I am always wondering how being in my course impacts that. I always feel as if there is something happening but I haven't captured it before. . . (Alicia, August 24, 2005)*

We found that despite the fact that email can feel confining as a form of communication, writing emails forced us to articulate our ideas more clearly so that the other person could understand our intended meaning.

### ***Emergence of a Focus***

After several correspondences we began to engage in a process of framing and reframing what we shared. For instance, through posing a question about how she might capture and document the nature of her students' learning experiences, Alicia was prompted to consider a deeper issue related to the way in which we, as teacher educators, shape the context for our students' learning, and which could serve as a frame for our research approach.

*. . . My students are really growing. We have been grappling with critical thinking. . .They were making connections that I had hoped for but didn't think would happen this early. How do I document this stuff? The dialogue in the groups is amazing but capturing it is difficult – there is so much going on I can't be taking notes while I'm facilitating. I just had a thought, what about thinking about ways that we construct "methods" courses – this is fuzzy – . . . a conversation, analysis, etc. of what we do to construct the environments we want to help the students learn? (Alicia, October 4, 2005)*

As our dialogue continued, we began to see common questions surfacing and a possible new frame for consideration of these questions emerged, as illustrated in the exchange below.

*As I prepare for spring I've been thinking about what challenges me most and I think one thing is getting students, future teachers, to begin to think more and more like teachers. Sounds simple but it is a constant issue. . . I would like to know about what help[s] them begin to move to a more 'teacher thinking' place. How do I get them to get past classroom management and into student learning, how to get them to think about lessons as conceptual wholes instead of a bunch of activities? That is actually something I've been grappling with a lot for the last couple years. (Alicia, January 12, 2006)*

*[In your emails] I could see these questions (amongst others) popping out:*

1. *How do I help my students think more like teachers?*
2. *How can I help student teachers think/move beyond survival and more about their students' learning?*
3. *How can prospective teachers think more about lessons as conceptual 'wholes' and less like a (mostly disconnected) bunch of activities'?*
4. *How can I help student teachers develop a conceptual thread through their teaching, to promote student learning?*

*Then I realised that these were the same kinds of questions that I was asking myself, too, and that linked with the frame . . . [of] seeing the work of teacher educators conceptualised as a series of tensions. I saw the ideas of the tension between 'telling and growth' really strongly here. I'll explain a bit more about what I mean and hopefully this will make a bit more sense (!!!?). (Mandi, February 9, 2006)*

Through the process of articulating our questions, particular facets of our thinking became highlighted that related well to a particular tension experienced by teacher educators, identified in earlier self-study research by Mandi (Berry, 2004), between the notions of “telling and growth.” This tension relates to the experience of teacher educators wanting to help their student teachers learn about teaching without perpetuating a transmission model of education. The notion of telling is most commonly experienced as an attempt to transfer propositional knowledge from the teacher to the student (a practice deeply embedded in the culture of education). We believe that a pedagogy of ‘telling’ rarely carries sufficient understanding to the learner to be personally useful. Teacher educators who attempt to alter this deeply embedded teaching style need to find new ways to support student teachers to learn what teacher educators intend. In this case, Alicia wanted to encourage her students to “think more like teachers,” yet she could not achieve this simply by telling them to do so, or offering her experiences of teaching as vicarious teaching experiences for her students. By beginning to conceptualize our practice through this tension, both of us also recognized an important shared assumption about the need for student teachers to develop their own personally meaningful understandings of practice rather than learning to reproduce the teacher educator’s teaching approach. This view was one not necessarily shared by their colleagues, as Alicia explained in an email to Mandi:

*You wrote [previous email]: “Learning to teach does not mean learning to teach like me. Being an effective teacher educator means that I need to develop ways of working that*

*are responsive to and encourage the strengths, interests and concerns of individual student teachers rather than their learning to reproduce my approach.”*

*Yes, yes. I had this talk with my two social studies colleagues at Kent and they were surprised that I don't tell more stories. I explained that I don't usually, especially in the beginning because I feel that it sets them up to think that I am the master and they the clone. (February 10, 2006)*

Alicia explained to Mandi how she deliberately withdrew her “authority of experience” (Munby & Russell, 1994), that is, stopped telling stories in order to facilitate her students’ development of their own authority as teachers. Her view led her to plan alternative ways to teach. For example, she identified that helping student teachers draw upon knowledge developed through their own experiences and making explicit to student teachers her thinking about the purposes for various activities is an important part of her approach. However a difficulty she confronts is that despite her chosen approach, students often still struggle to accept and take on their own forms of authority.

### ***From an Emerging Focus to Principles of Practice***

Through our emails we began to focus our work, and our conversations turned more intently to developing and articulating our thinking about teaching preservice teachers into ‘principles of practice’ (Loughran, 2006). During this process, we found that we needed a format that allowed us to think together more easily, as up until this point our correspondence had been via email alone. Thus, we began experimenting with various forms of ICTs but found it frustratingly difficult to find a program that matched our needs (an aspect we return to later in the chapter). Fortunately, our yearly meeting at AERA occurred around this time and we were able to get together face to face. This meeting let us collaboratively construct an initial framework from which we could continue to work. When we left the conference and returned to our long-distance situation we had a more tightly defined focus for our work, with the outcome being the articulation of a set of five principles of practice related to teaching our prospective teachers to “think like a teacher”:

- Principle One: Thinking like a teacher involves learning to see teaching from the viewpoint of the learner. Experiencing the role of learner is an important means of developing an understanding of the learner viewpoint.
- Principle Two: Prospective teachers need opportunities to ‘see into’ the thinking like a teacher of experienced others.
- Principle Three: Prospective teachers need opportunities to try out thinking like a teacher in order to develop their thinking as a teacher.
- Principle Four: Prospective teachers need scaffolding (guidelines, questions, structures) as they begin thinking like a teacher to support them in the process.
- Principle Five: Developing responsive relationships is at the heart of learning to think like a teacher and at the heart of supporting our students (relational support) (Crowe & Berry, 2007, p. 33).



## *Moving Beyond the Articulation of Principles*

After we had articulated these principles, we were fortunate to be able to meet again in the same year, this time at the Castle Conference (a biennial self-study conference held at Herstmonceux Castle, East Sussex, England). At this conference we presented and discussed with colleagues our initial ideas about our principles. Making our thinking more public in this way provided us with further insights and refinement of our set of principles. Our principles of practice were subsequently developed into a book chapter (Crowe & Berry, 2007) and through publishing our work, our confidence in our ideas grew and we began to look for how we might push the ideas further. Our thoughts then turned to moving beyond simply naming our principles and into studying them in action. Below is a short series of email messages that help illustrate the change in our focus.

- Mandi: *Now maybe we have to talk soon about how we are using the POPs [Principles of Practice] to look into practice? Have your students started yet??* (August 23, 2006)
- Alicia: *I begin next week. I want to begin a study of how we use them. Ideas? I would need to begin with class on Tuesday, right?  
Is our main question – how do we use our PoPs in practice?  
How do we change as we think about these in practice?  
How do our students (a sample) respond to our PoPs in practice?  
What do you think?* (August 24, 2006)
- Mandi: *Yes, I like these questions and somehow I have to be able to help critique your practice with you from a distance ...* . (August 24, 2006)

As Alicia began teaching her class, Mandi sent some questions and more conversation ensued.

- Mandi: *Hi there, I have been wondering how things went on your first day of classes? Did you think about the POPs as you were teaching? How did your classes compare with the vignette we constructed for the chapter? Did what we write at all influence what you did/said/thought about?? As you can see I am hungry for your experiences!!!!* (August 29, 2006)
- Alicia: *I have been wanting to chat about it. I did think about them as I taught. I was very conscious of what I was saying – at times I wondered if I was messing up my flow by thinking of them at the same time. Sounds odd I know, but in the debrief I was doing I was thinking of the learner one and the teacher one at the same time. . .*  
*I thought about the vignette [from our chapter] a lot as I went through the first day. As I lived it again, I realized the vignette was very close to what I experienced once again. I realized I thought a lot about the relationship principle (5). Almost all was that but a little of thinking about what I did and why. I did video tape the class b/c I thought the first day would be an important one to revisit. I'm going to have my grad assistant transfer it to dvd and see if that is a way we can exchange. We'll see.*

*I've attached my lesson plan with edits – maybe this can help convey some of what happened. Boy I'm busy this week. :-)* (August 30, 2006)

And so our focus shifted again. We began to consider how to document and understand how our students experienced these principles, how they understood them, how we struggled to teach in ways that reflect these principles and what these principles looked like in different circumstances.

Since then we have been interested in several questions: How have we changed as teacher educators since we articulated our principles of practice? How does each of us implement our principles and what challenges/insights have we encountered in the process of their enactment? How does our enactment of our principles influence our students' learning about teaching? Do we have any evidence of how our students have changed? What do we count as evidence? How do our students experience our principles in action? How is our critical friendship supporting and challenging our understandings and experiences of change? How is our critical friendship itself changing? We have spent the last year and a half focusing on these questions in various ways and email has taken a variety of forms depending on where we are in the process.

### **Summary**

Although from an outside observer's point of view, our practice may not look considerably different since we began our collaboration, developing and having these principles of practice as a frame for understanding our work as teacher educators has helped each of us to become more purposeful and focused in the way we work. What we have learned is that we have developed stronger understandings of our teaching and our ability to articulate why we do what we do. For instance, we can now discuss our work together using a common language that is more specific to our goals (through the principles of practice), and as each of us works we are more aware of which principles are more or less visible in our work. By examining our principles in action and by continually discussing these we have adjusted smaller activities and assignments from each of our courses. For example, this year, after one of our conversations Mandi began a blog to highlight her thinking about her practice for her teacher education students to see (<http://edf4113mandi.blogspot.com/>). This is an example of our second principle in action.

### **The Use of ICT in Self-Study**

The collaborative self-study work that we have undertaken has been possible through the use of electronic technologies. Therefore, besides learning about teaching teachers and ourselves as teacher educators, we have also learned a great deal about the advantages and disadvantages of using various ICTs, in particular email, as tools for collaboration and analysis in self-study research. Finding and learning how to use the kinds of tools that could help us connect in ways that matched our needs

has proven both a challenge and an opportunity in the development of our critical friendship and our research. In this section of the chapter, we offer some insights into the challenges and opportunities that we have encountered, using Hoban's (2004) categories of research processes facilitated by ICTs as an organizing frame, that is, representing, accessing, analyzing, retrieving, sharing, communicating and editing data. We have grouped and discussed the processes identified by Hoban according to the way in which we have encountered them in our work.

### ***Representing and Sharing Data***

One of our first tasks was to find ways of representing our experiences and our thinking for each other in order to learn about each other's work and identify connections that could direct our research. While in our occasional face-to-face conversations this was relatively easy to achieve because we could see each other's nonverbal expressions and build on each other's ideas immediately or ask for clarification on the spot, in our email conversations we struggled at times to find words to convey our ideas without these other supports. In the 'slowed down' environment of email we had to be much more explicit about expressing our thinking through text alone. Our shared struggles to articulate our thinking and our openness to confessing the sense of frustration and struggle each of us experienced acted both as an apology for a lack of clarity in our emails and as evidence to ourselves that we needed to add more detail and refine our statements to each other. For example, during the time in which we were developing a shared frame for our research we exchanged numerous comments about the difficulties associated with writing and finding the right words to convey the intended meaning. An excerpt from an exchange between us at the beginning of October in our first year (2005) illustrates this point. Alicia wrote, *I wish I could beam my brain to you to make the thought clear – ok try again. . . I'll have to work on this.* The following day Mandi replied, *I wish I could 'brain beam' too! It is often so hard to get all the thoughts out in the way I want.*

Issues with communicating in text alone also linked to the notion of writing as a formal act and hence brought expectations from each of us about the quality of the writing that we shared. For instance, Alicia noted,

*I know exactly how you feel. A conversation over coffee would be so much easier. Do you think it could be because it is text and asynchronous? I just misspelled asynchronous and had to stop to fix it– that could be a problem too? Knowing that our conversation is written takes it into the realm of the formal. That's definitely something to overcome as well since it feels like it should be profound to be written. (November 7, 2005)*

Finding time for sharing was also a difficulty we encountered. No matter how well intentioned, it was hard for each of us to find time and energy to write to each other. This was particularly so in the beginning of our relationship because of our lack of familiarity with each other's work context. We needed to spend time initially setting the scene for each other so that we could better understand each other's experiences, questions and motivations. We have since come to recognize

this mutual scene setting as an important aspect of our learning that applies equally to the ways in which we work with students to support their learning about practice.

As we learned more about each other's teaching and thinking, we found we wanted to think together in ways that email did not allow. Sharing via email was not fast enough for certain activities; we wanted a tool that we could think together with, something synchronous versus the delayed response effect of emailing each other ideas, then reading, responding, waiting for a response, responding and so on. We tried instant messaging technology (IMs) – technologies that allow two or more users to communicate via text, in real time, for example, iChat. This seemed to work for briefer communications or decisions, but we quickly learned that this format could not accommodate or keep up with and reflect the dialogic twists and turns that we needed for more in-depth conversations. As we experimented with IM, we found that there was too much mismatch in our conversation; we ended up with too many loose ends or confusing moments, particularly if our sequencing was off-balance, which meant that sometimes we were having conversations about several different ideas at once, as each of us waited for a response from a previous comment. In one particularly frustrating session Alicia described the technology as being *"too linear for the way we talk and think."* The ideas did not flow well and the subsequent documentation of those ideas did not make sense when we retrieved them later.

We longed for something more synchronous that would allow us to think together – basically replicating a face-to-face experience. When we next met in person we sought technical assistance at a computer store and learned how to use video conferencing. (We were fortunate to be using the same computer platform, so this helped with decisions about which software to use!) However, when it came to using a camera we found that seeing each other actually distracted us more than it added to our conversation because of slight delays in seeing an image and hearing our voices. We discovered that by using the audio component alone of iChat (an IM technology) we could hear each other clearly, which allowed us to talk as if we were together while being miles apart. Being able to talk 'ear-to-ear' in this way helped us share experience in ways that we were unable to via text. We found that hearing the voice of the other was very much like having her there – in a hands-free environment – which also meant that we could type as we talked when moments of inspiration occurred. We found that our conversations rarely lasted more than one hour, due to the intensity of the talk we engaged in and because the time difference meant that one of us was preparing to go to work while the other was preparing to go to bed!

Our developing competence with the technologies grew hand in hand with refining our understandings of practice, so that as we understood more clearly what we needed to talk about, we could select and combine our use of different technologies and software tools to meet our developing communication and collaboration needs. For instance, we used iChat to send documents, paragraphs, sentences and so on, to each other as we communicated by voice, to further explain and add to each other's writing, rather than sending email summaries of our thinking at the end of an audio conversation. We also found email a wonderful tool that allowed us to quickly and easily share artifacts of our teaching (e.g., PowerPoint presentations, lesson plans)

as well as sharing data gathered from surveys, interviews and focus groups with our students.

### ***Retrieving, Accessing and Analyzing Data***

Having a repository of stored data in digital format meant that we could each easily retrieve and revisit what we had written as needed. We did this in various ways, including preliminary searches of our exchanges so as to surface themes and through initial analyses of data for later discussion in an audio chat. An example of how this worked is documented earlier in the chapter as our beginning questions about our practice were revisited and organized into preliminary themes for our research; these themes later became our principles of practice. Later still, for instance in the preparation of this chapter, we have been able to search the data in order to trace both the frequency patterns of our interactions and the types of concerns that have most preoccupied us over time.

In hindsight, our richest data sources were our emails since their content was more detailed and organized, compared with notes taken during audio chats or exchanges through IMs. Emails provided artifacts that gave us something to analyze and helped us recognize more clearly the sequence of ideas that we were developing about our work. Similar to others who have engaged in email collaboration (e.g., Freese et al., 2000), we have gained insight into our beliefs and practices through visiting and revisiting our communications over time.

### ***Communicating and Editing Data***

Our ability to communicate personal insights initially to each other, then later through text-based publications or conference presentations, has been facilitated by the various electronic technologies we have used. Through the process of developing more formal representations of our work we have been able to communicate the knowledge developed to the wider academic community. Interestingly, as we prepare such work, we have encountered few difficulties or disagreements about what to write or how to express particular ideas. Perhaps knowing each other well as writers has helped us to be able to overcome what can be a stumbling block for some collaborators as they write and edit each other's work. Throughout, we have maintained a view of shared authorship whereby we alternate taking lead authorship in order to satisfy institutional demands for publication achievements, an approach similar to that used by other collaborative self-study researchers (e.g., Guilfoyle et al., 1995).

## **What Have We Learned? What Does It Mean?**

As we consider the development of our collaboration, we recognize that our interaction tends to move in and out of particular phases – from the initial sharing of ideas

and pushing each other to articulate our thinking, to analyzing and conceptualizing, and then writing and editing – and that as we move through these different phases, we experience different needs. The range of technologies available to us can support us in various ways depending on where we are in the process. Hoban (2004, p. 1066) notes the reciprocal influence of on-line technologies and self-study research “as an iterative process with one informing the other. In short technology should inform our self-study purposes and vice versa. . . [and] as new technologies are developed, then new opportunities for teaching and self-study are developed.” This observation aligns with our experiences, and we anticipate that we will continue to find new ways to support our working together. For instance, although we have experimented with making videos of our classes and exchanging them, the different DVD formats we work in have made this very difficult. In the future, we hope to learn how to load and share video via the web.

We also recognize the possibilities for delusion and deception in the use of electronic technologies in self-study research. Since we do not see each other’s classes and do not have access to colleague conversations it is possible to present a particular view of ourselves to each other. Furthermore, as we develop our collaboration it is seductive to simply affirm each other’s work through what we choose to research and how we choose to report it. From the outset, we have discussed these issues and how we might work to address them to promote honesty and quality in our work. To this end, we have looked for disconfirming examples of what we are seeking to do, for instance when students tell us that what we intend in our practice is not what they experience, and we tell each other when we struggle to enact the principles that we see as guiding and supporting our work. We bring to the surface our struggles and frustrations as much as (or perhaps more than?) our successes, anticipating that pursuing these challenges may well be more fruitful to our attempts to uncover new understandings of our practice and our students’ learning.

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