Stitching Together a Teacher’s Body of Knowledge: Frankie N Stein’s ePortfolio

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Abstract

In this paper we report on research into how an ePortfolio (eP) process can address the critique that teacher education programs offer fragmented course experiences and too often focus on narrow instrumentalist approaches emphasizing the “how to” and the “what works” -- implying that learning how to teach is about stitching together separate pieces of knowledge transmitted in an array of teacher education courses (Darling-Hammond, 2006). In contrast, we believe that an eP process, systematically developed within a teacher education program, can create a complex and self-renewing system that grows from both individual and programmatic assessment of student learning. Using the eP entries of forty-five elementary pre-service teachers and interviews with eight graduating pre-service teachers, we have crafted five ethnographic fictions (Rinehart, 1998). These narratives, drawing on themes generated in the data analysis, offer an insight on the lived experience of being a pre-service teacher in a teacher education program that uses an ePortfolio practice. Using a complexity theoretical lens (Davis & Sumara, 2006; Mason, 2008) we show how the ePortfolio process creates the conditions that enables pre-service teachers to communicate reflective thinking about teaching, develop an understanding of learning and learners in emergent ways, and enables a personal and collective sense of forming teacher identity from course and practical experiences that can be integrated into a personal sense of becoming a teacher.
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Dr. Frankenstein exclaims:
“In the name of God, I now know what it feels like to be God.”
Laemmle, (Producer) & Whale (Director), 1931.

How can I describe my emotions at this catastrophe, or how to delineate the wretch whom with such infinite pains and care I had endeavoured to form? His limbs were in proportion, and I had selected his features as beautiful. Beautiful! Great God! His yellow skin scarcely covered the work of muscles and arteries beneath; his hair was of a lustrous black, and flowing; his teeth of a pearly whiteness; but these luxuriances only formed a more horrid contrast with his watery eyes, that seemed almost of the same colour as the dun-white sockets in which they were set, his shriveled complexion and straight black lips. (Shelly, 1992, p.58).

The quotes above frame a metaphor to describe teacher education programs that offer prescriptive ways of becoming a teacher. It may seem exaggerated and overly dramatic but it reveals the fragmentation of programs sutured together with disconnected parts. In this quote, Dr. Frankenstein is reviewing his life’s work. He’s carefully chosen the perfect “pieces” to put together to create his masterpiece and instead is faced with a catastrophe. Despite the fact that his pieces do make a whole, the connections between them are missing and because of this his Monster is alive - but fundamentally flawed. Agreeing with the critique of other scholars (Ball, 2000; Darling-Hammond, 2006; Korthagen, Loughran, & Russell, 2006; Russell, McPherson, & Martin, 2001) we purport that by sending student teachers into programs that focus on only the ‘best practices’ and not giving them opportunities to build the deep connections between their learning and their reflection results in teachers who are alive, but flawed.

The Method
In this paper we will construct a creative ethnography (Denzin & Lincoln, 2000; Sparkes, 2002b) intended to evoke a visceral response from the reader to offer a way to address the flaws we see in the current teacher education programs. Using creative ethnography, we will represent the lived experience of being a pre-service teacher in a teacher education program that uses an electronic Portfolio (eP) practice. We believe that an eP process (multi-media storage and retrieval of electronic learning evidence) as an aspect eLearning, systematically developed within a teacher education program, can create a self-renewing system that grows from both individual and programmatic assessment of student learning. Without processes like an eP creating the conditions that enable reflective thinking, and a personal and collective sense of forming teacher identity, we believe that teacher education programs result in a stitched-together semblance of a teacher, cosmetic understanding that has not been integrated into a personal sense of being a teacher. In Hopper and Sanford (2010) we used an action research methodology to report on the evolution of the eP process in our teacher education program, commenting on the competing agendas, resistance to technology and in agreement with other eP scholars the slow pace of development of pedagogical practices to realize the potential of the eP process (Wetzel & Strudler, 2005). In this paper we focus on eP entries from forty-five pre-service teachers over a three-year period and the final reflections from eight pre-service teachers who were interviewed about the eP process as they exited the program. Our analysis and their insights show how the eLearning processes of the eP enabled what Osberg, Biesta, & Cilliers(2008) describe as an emerging complex system to form between their individual and collective learning.
The Critique

Traditional teacher education programs offer a narrow instrumentalist approach that emphasize the “how to,” the “what works,” and the mastering of the “best” teaching methods (Aronowitz & Giroux, 1985, cited in Segall, 2002, p. 13). It is well documented that in such programs prospective teachers will not easily be able to recognize or challenge their assumptions, “talk to their school experiences, consider alternatives, and contextualize theory within practice and practice within theory” (Russell, McPherson, & Martin, 2001a, p. 44). In short, traditional teacher education programs focused on content to learn tend to create a transmission model reinforcing the message that teaching is about knowing a discrete body of knowledge that can be “mastered” and stitched together. This model silences teacher candidates’ voices and lends no warrant to the authority of their own experiences. Based on these assumptions we have purposefully developed an eP practice to create spaces for pre-service teachers to articulate their own experience, in light of professional competencies to be certified as teachers, creating the situation where pre-service teachers can become more self-confident, knowledgeable, and reflective about their practice (Zeichner & Wray, 2001).

To set up an account in this paper we have developed four sections that will give a contextual overview to frame the creative ethnographic account. Section one looks at ePs and teacher education, offering a brief insight into why ePs have become infused into teacher education programs and typical issues that arise from such infusion. Section two focuses on how we understand the complexity of learning from an eP practice and teacher development, noting the particular design of our teacher program that tries to acknowledge this process. The final section explains why we have chosen creative ethnography to represent the data from students in our program and how this form of representation should be understood in order to offer legitimated insights on elearning through eP that enables teacher development.

Why use an eP?

Portfolios have been identified as a tool for deep and durable learning, supportive of environments of reflection and collaboration; they are particularly effective for bringing about performance and learning-related change. A critical outcome of teaching portfolios is that they create situations where students can become more in control of their learning and development as teachers, developing greater confidence about their practice (Zeichner & Wray, 2001). However, there is a real need to document the impact of ePs on pre-service teachers’ development, as well as to use the eP as a vehicle for gaining insights on program renewal. Teacher educators have traditionally struggled with convincing students to work on their portfolios, competing against more traditional assessment demands or the ‘studenting’ habit of putting the portfolio together at the last minute (Dollase, 1996). There are, however, limited studies on the process of portfolio construction (Borko, Michalec, Timmons, & Siddle, 1997).

Why an electronic format? Portfolios have the potential to capture large amounts of data and thus are being created in electronic forms. The electronic medium for portfolio development has several advantages: (1) users can manage and review large amounts of material; (2) ePs are more flexible and dynamic, enabling artifacts to be presented in more integrated ways; and (3) ePs give individuals the opportunity to develop and demonstrate their technology skills (Heath, 2003). The eP offers a vehicle for alternative ways to assess student learning, building on opportunities within traditional teacher education courses and therefore serving multiple developmental purposes. As Wolf and Dietz (1998) described, there are three main forms of portfolios in teacher preparation: (1) the learning portfolio used throughout the program to track progress and reflect on learning; (2) the assessment or credentialing portfolio used to determine
whether the student has demonstrated some level of proficiency on a set of teaching standards; and (3) the *employment* portfolio used by the student to represent their best work when they apply for teaching positions. Artifacts in these portfolios can be manipulated flexibly, and can include narratives statement of teaching goals and philosophies, lesson and unit plans, samples of pupil work, supervising teachers’ notes, journal excerpts, photographs, video and audio clips, action research projects and pupil assessments, depending on the purpose and audience of the eP. Students usually include reflections analyzing each artifact to explain why it was selected and how it meets program criteria and competencies. These analytical explanations can enable students, who often struggle to separate evidence from artifacts, to make meaningful sense of the artifacts as representations of their learning in relation to certifying competencies.

A critical issue that has emerged around ePs is the fostering of student ownership. As noted by Barton & Collins (1993), there needs to be a balance between specifying portfolio entries and letting students determine their entries, with prescription focused on form rather than content. As Borko et al., (1997) warn, a lack of ownership will make the portfolio something that diverts students’ attention away from learning and teaching rather than supporting and building their confidence as teachers. Creating an electronic framework offers spaces for students to choose from assignments and practicum materials, thus inviting and encouraging a range of forms and types of artifacts.

**Complex ePortfolio learning**

The eP also offers a way of creating what Goodlad, J., Mantle-Bromley, & Goodlad, S.,(2004) and Sarason (1997) have referred to as a self-renewing process within a teacher education program. The electronic format allows ongoing access by students to their developing eP as they progress through the program. Instructors and mentor teachers in schools can see the types and quality of work that students have completed in their courses. Program coordinators and faculty can examine what assignments from classes emphasize particular teaching competencies and where there are omissions or weaknesses. In this way the eP creates more open channels for communication across a teacher education program, for students, mentor teachers, instructors and program coordinators (Goodlad & McMannon, 2004). The students’ ePs allow a way of mapping progress, counseling where appropriate, and celebrating those that exceed expectations, as well as noting where the program connects or does not connect to professional standards for qualification in the teaching profession. In this way the eP creates insight on “learning how to teach,” creating a self-renewing program.

Furthermore, we propose that ePs offer the potential to develop a learning process framed by complexity thinking (Davis & Sumara, 2006; Mason, 2008). The eP offers a way for pre-service teachers to learn in more adaptive, self-referencing and emergent ways as they are continually informed by experiences they select to reflect on what informs and challenges their development as teachers. These are the key characteristics of a complex system that describes the way systems, ranging from large-scale economies to the human brain, learn. Such systems are comprised of a collective of interrelated dynamic structures that cannot be reduced to discrete parts (Colliers, 1998; Davis, 2004). Teaching is a highly complex activity, however its complex nature as responsible for a system of learners has often been ignored or overlooked in contemporary theorizing, creating our fragmented Frankenstein monster. Learning to be a teacher is often seen as an individual process of becoming rather than a transformation of a person in light of their collective experiences and in relation to fellow teachers and learners they encounter. Drawing on what Davis and Sumara (2006) call complexity thinking we examine how the key components of complex learning systems such as internal diversity, enabling constraints,
bottom-up organization, redundancy, nested knowing and decentralized control are features that are both evident in eP interactions and have the potential to extend our theorizing about teacher education. These components will be further discussed in later sections of the paper.

**Key program features**

As noted by Hopper and Sanford (2010), the eP allows pre-service teachers to enter evidence from life experiences, assignments and field experiences in an electronic form, cross-referenced by sources. This creates a way of mapping teacher education competencies being addressed in courses or field experience in the form of a matrix (see Figure 1). For each piece of evidence, pre-service teachers complete a STARR framework (Situation, Task, Action, Response, Reflection) that they use to explain why the particular piece of evidence or artifact was chosen, what they have learned from including and reflecting on the artifact, and how the artifact addresses the competency being considered. The teaching seminar courses are responsible for supporting and connecting pre-service teachers’ learning in coursework and field experiences using the eP structure.

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**Figure 1** Outline of pre-service teachers’ teacher development reflected in their ePs entries

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The Competencies require that pre-service teachers demonstrate knowledge, skills, and aptitudes in three broad areas: (1) Professional knowledge (i.e. subject matter, child development, learner psychology, cultural understanding, etc), (2) Professional practice (i.e. planning, assessing learning, analysis of teaching experiences, creating productive and safe learning environments, etc), and (3) Professional commitment (i.e. attitude of teaching as a life-long career, connections to professional organizations, connections with peers and community members, ethical practice, etc). Three formal practicum experiences are embedded in the Elementary Education regular four year program. Each practicum affords course instructors an opportunity to review the development of the pre-service teachers’ learning. Throughout these experiences pre-service teachers are encouraged to collect and reflect upon artifacts that represent learning to become a teacher.

In addition to the Faculty of Education preparing pre-service teachers to address the established competencies through programmatic experiences (coursework, field experience, seminars), the eP structure acknowledges that pre-service teachers have a wide-ranging set of prior and ongoing experiences that enable them to become professional educators, therefore, spaces are created in the eP to enter learning artifacts from experience prior and outside of the teacher education program.

**Justifying the use of Creative Ethnography**

This paper draws on a creative non-fiction ethnographic genre (Hopper, et al., 2008; Rinehart, 1998; Sparkes, 2002a). In this genre the researcher adopts an ethnographic approach to data collection and analysis, however in creative ethnography the author has authority to tell a story on behalf of participants by creating representative characters and replacing names and places to protect anonymity. The focus of this genre is to engage the reader’s emotions using a dramatization of real events that are spliced together to create a believable account. Engaging readers’ emotions provides a catalyst to spread empathy and understanding. The genre makes ideas and information that already exist more interesting and more accessible (Narayan, 2007). Through the use of the creative nonfiction genre, research is not reserved for a narrow specialist audience but made more accessible through the telling of story based on real events. The liberal use of prose allows for the research to be presented in a vivid and compelling manner. This fits
well with the postmodernism paradigm positing that no single method, theory, or tradition is perceived as the dominant force – there are multiple truths.

As others have shown in their work (Hopper, 2010; Sparkes, 2002a; Wyatt, 2007) we believe that this form of representation offers a way to engage the reader in the virtual experience of being a student in a teacher education program that uses an eP. These stories should be judged for the empathy they offer the reader with the students, but also for the plausibility of the exchanges, and the verisimilitude of the events presented. The stories offer insights on conversations that students have told us they have had, but also the mis-information, the conflicting discourses surrounding becoming a teacher. Ultimately, the stories offer a sense of becoming an autonomous teacher.

**Methodology details**

To excavate the data for this study the ePs from forty-five pre-service teachers were selectively read and coded. These pre-service teachers had entered the elementary teacher education program in 2007 and gave permission to have their work used for research purposes. One researcher read the entries of every third pre-service teacher on the list from the 2007-2010 cohort. Each entry was approximately 250-300 words in length and the researcher selectively coded approximately one per student, making the total words coded and condensed about 7500 words. The reader initially looked for entries that stood out to her, for example, those that were creatively written, shared unusual experiences, or that demonstrated learning for the pre-service teacher. In this preliminary read she wanted to find entries that showed how the pre-service teachers had used their eP reflection as a tool to further their learning. Once she found an entry, or part of one that caught her eye, she copied it to a separate table in Microsoft word. In this table she made notes on the pre-service teacher’s entry including things such as location of the entry, aspect of the program associated with the entry and comments she had about the entry.

The next step in the creative ethnography creation was to transfer the text from the table of reflections to the NVivo program. The researcher reread each section that she had written as well as the parts she had copied from the pre-service teachers’ ePs. As the data was entered into NVivo it was coded by key phrases with terms to help her sort out what she was reading. The NVivo program helped to further organize the entries chosen, allowing themes to emerge that were then discussed further with the research team. The entries were read numerous times and some key phrases ended up with multiple codings, as they fit into different themes, such as “ecological thinking” and “thinking like a teacher”. Upon completing the coding stage the research reader went back and read each group of phrases that had been given the same code, in order to respond to the similarities and differences within the group. It is from here that the research team began to select the “typical” entries to be used in developing the matrix outlining the phases of the pre-service teachers’ development. It was also at this stage that the creative ethnographic pieces were written, based on key entries from the original eP entries. These were read and from insights gained from interviews with eight pre-service teachers as they exited the program, finalized for this paper.

The matrix in Figure 1 highlights six areas organized under three themes of: (1) Learner and learning; (2) Forming a teacher identity; and (3) Teacher and Teaching. These areas frame how development in eP entries occurs and connects to the kind of program experiences. Once the guidelines for the matrix were set, the research team spent time looking for key terms to describe each section of the matrix; i.e. responsive teaching, confidence from integrated experience and role of professional. These terms were generated from the students’ own eP entries that were initially selected.
Below are five creative ethnographic narratives encapsulating the pre-service teacher participants’ data, following the thread of six phases identified through the data analysis. Frankie, the pre-service teacher near completion, and Shelley, the novice pre-service teacher, share their perspectives on eP. Frankie attempts to shift her novice colleague’s notions of eP as work to be done to that of a reflective tool for shaping a more complete and organic teacher education experience. After each piece we include our researchers’ reflections as we made links to the complex learning process forming in the eP practice.

**Phase 1: Prior Experience**
“Oh, good,” Frankie thought, “there’s a computer free. I have to review my eP for my exit interview next week.” Frankie, a final year student sat down next to a student who was scowling at her screen in frustration.

The student huffed and sighed and sat back in her chair. “Aren’t these things useless?” she muttered, looking over at Frankie’s screen. “I can’t believe I still have so many entries to finish.” She sighed again. “How many do you have to do?”

Frankie looked at the girl. She paused, remembering her year three frustrations, smiling she commented.

“Actually, I have done about thirty. I find the eP to be quite helpful. But then, I am nearly done the program so I guess I have more of a need for it. I’m Frankie, by the way.”

“Oh, hi. I’m Shelley. I’m just starting my seminar classes. What did you mean when you said you have more of a need for it now? I am not sure how this thing will be of any use to me. It is not grade so why bother? Isn’t it just a way of making us keep track of our work, just another hoop to jump through to become a teacher? Someone told me we had to it because it was someone’s research project.”

Frankie laughed. “In a way you’re right in that we need to show evidence of our work that addresses the BCCT teacher certification standards. However, I believe one of the reasons we’re required to do an eP is to see our learning. Here, look at this.” Frankie clicked on a small icon showing a tent. Her eP opened up an entry entitled, “My Days At Camp.” “This entry was my first. We had to write about an experience before starting the education program that helped us on our way to becoming teachers. I used to work at a residential camp for kids aged 8-12. I figured that would be a good thing to write about since it was sort of like teaching, but not in a classroom. Read this part of my reflection. I’d forgotten I’d written this, but look at how important my experience was for a student new to teaching.”

Shelley leaned over and began to read the paragraph Frankie had referred to.

The fact that I was able to care for 10-12 young children, deal with issues and provide them with a safe place to be, can translate into the teaching world. I feel that the skills that I learned at camp such working through conflicts offering options that kids could use to solve their own problems. Learning to create safe learning environments for children in camp will enable me to create a safe and supportive learning community for my future classrooms.

So, you used an old summer job as an artifact? That’s cool. I was a swimming instructor for a few summers. I wonder if I could include that in my eP.”

Frankie smiled. “That’s exactly the sort of thing you could include. Not everyone has had experiences working with children, but if you have you’re ahead of the game. Plus, now you are talking about what good teaching and learning looks like in your classes I bet you can blend your past “teaching” at the pool, with one of the Competencies.”
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**Reflection**

In the first phase of many students’ learning to become a teacher they focus not on their growth as professionals, but on their ability to be successful students, getting a high grade; they are concerned with filling in the matrix spaces of the eP rather than considering the connections between them and how artifacts can help them recognize their own understandings. Rather than exploring ideas deeply, they are concerned with getting it done and moving on to the next task, thus keeping their learning at a superficial level. The conversation between Frankie, who had learned to delve more deeply into her own learning, and Shelley, still concerned with completing tasks, helped them both to recognize and articulate their own knowledge and skills. Recognizing the *internal diversity* of their experiences prior to entering the teacher education program allows these pre-service teachers to build on their prior knowledge as they contribute to a collective understanding of teaching. Critically here the complexity notion of *redundancy* (things in common, overlaps) nurtured by the eP practice creates a connection that enables the “system's capacity to maintain coherence” (Davis & Simmt, 2003, p. 150). Once this notion of discrete, disconnected experiences is dispelled, it becomes possible for pre-service teachers to understand connections and to forge links for themselves and each other between courses and experiences.

**Phase 2: Course Based Learning**

“What about your courses?” Shelley asked, “we spend so much time doing projects, presentations, group work - has any of that made it into your eP?” Frankie thought for a moment.

“Well of course, lots. For example as a techno-phobe I am really proud of a neat digital video that I did for my computers class [video plays] but the entry I am really proud of is related to drama. Have you had that class yet?”

“No - I have it next semester. I’m looking forward to it though - I loved drama in high school. I actually made it into a few of the performances. I always loved being in front of an audience. That’s one of the reasons I wanted to teach. Is this class about running concerts and putting on plays and stuff?” Shelley questioned.

“Not really. I never got into the drama thing in high school. In fact the idea of getting in front of a crowd terrified me before I started my practicum. This class isn’t about putting on plays though - it’s about helping children learn through non-traditional means. I really wasn’t looking forward to it at all actually but it totally changed my thinking.”

“Really? What happened in the class?” asked Shelley.

“Our professor showed us how drama is about connecting with a creative understanding of what’s being studied, rather than focusing on performance. I tried new games, pretended I was the Big Bad Wolf, worked with my peers to make up our own versions of events from fairy tales we knew… I came to see that drama was about allowing kids to enter into their learning in ways that traditional pencil and paper tasks might not let them. Here’s the entry I wrote about it.”

Shelley leaned towards the screen and read. “Throughout my *elementary and secondary education*, I had not been a very extrovert person. As a result I really didn’t put much stock into taking a drama course unless it was required of me. In fact, I never felt that drama was that necessary in education. I was very apprehensive in taking the course because of this belief, but after a few days in the class I was amazed at how my opinion of drama changed. My teaching philosophy has changed because I now believe that drama
gives the students a chance to get rid of any excess energy, channeling it into activities that activate their imagination and thrust them into a world of their choosing. As a teacher, I have learned that including drama into the classroom gives the students a chance to express themselves in a way that they might not ordinarily get to do.”

“You see, I put this in my reflection because I think it shows my growth as a teacher. I started to see there is more to teaching than just what I know and what I thought about drama going into the class completely changed - after only a couple of classes. It’s a super course - you learn how to incorporate drama into all areas of the curriculum and also how to make students comfortable while taking part in drama activities - I really valued that aspect.”

“I’m impressed.“ Shelly said, “I thought the eP was just for recording what you did - like I taught this class or I did this lesson, but you’re really using it to show what you’re learning about yourself and teaching. That’s kind of cool. I hadn’t thought it could be used that way.”

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Reflection

As Frankie progressed through the program and had many opportunities to learn from her course instructors, she recognized that she had to be open to new ideas that she had previously dismissed. The eP became the vehicle for reflecting, sharing, and shaping her ideas as she gradually transformed her understanding of learning from mechanistic and linear approaches to ones more associated with complex and interconnected knowledge, skills, and attitudes. The eP allowed a sense of organized randomness; the competencies to be addressed created the rules that bounded the system, but these did not limit the possibilities (Davis & Simmt, 2003). The eP framework allowed Frankie to be creative in her selection of evidence; the constraints of competencies focused her reflections but allowed her to organize her own thinking creating a bottom-up organization as she decided what was important and how it related to her growth as a teacher. Frankie helped Shelley to shift her notion of disconnected pieces in a program that just had to be completed to a more natural whole that was shaped by the experiences and understanding of the pre-service teachers themselves.

Phase 3: Early Field Experiences

“So how did your practicum experiences go? What grades did you teach? I can’t wait to get into a classroom and start teaching!” Shelley exclaimed.

“Oh - I learned so much. Before each one starts you think you know what you’re doing and then you get there and you see so many things you’d never even thought about. But that’s the great part about it - because you are there - you get a chance to learn as you go. I was lucky; I really got along well with my mentor teachers. We saw things in similar ways. They were so supportive. I felt really comfortable asking them for help,” Frankie continued, “and if I didn’t ask then I wouldn’t know. They’ve been doing it for so long sometimes they forgot to mention things - so that’s when I had to speak up.”

“Were you nervous?” Shelly asked. “Because I am super pumped to get out there but at the same time I’m kind of terrified! What if the kids don’t like you, don’t listen to you?”

“I was pretty scared but at the same time, because I had “unofficially” taught before, like when I was a camp leader, I knew I could do it. You go in planned and then everything gets messed around and then all of a sudden you’re coping and teaching. It’s awesome. Let me find an example from my ePortfolio. This one is from my first practicum.”  Frankie read,

Flexibility is key when you are a teacher and I learned this first hand through this practicum. At times, I would have a perfect lesson planned and for one reason or
another, I would have to adjust it (i.e. simplify, extend or revise parts of it). One of my lesson plans - a felt board story - was scrapped all together as the children were too young for the story I had chosen. At first you’re devastated since your lesson won’t work but somehow you just deal with it. The kids are there and they’re waiting for something so you have to think on your feet and at the same time, meet their needs. In this case, I was lucky that my classmates were still looking at the Seminar MOODLE - I posted that my lesson bombed and within 2 hours I had three ideas for a replacement. It takes a ton of work to keep up with the children but in the end it’s worth it to see engaged, excited learners.”

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Reflection
EPs enable students to use 21st century learning tools and skills to enhance their own understandings of complex and challenging notions about teaching. Social networking spaces such as moodles, blogs, and wikis enable ongoing interaction between peers and instructors. Frankie saw her own ideas being considered and valued as collaborative safe spaces developed; she became less afraid of sharing her own work for fear of being judged or sanctioned but rather was able to contribute to a growing collective of ideas and strategies. Critically here the neighbourly interactions between Frankie and her peers, and now between Frankie and Shelly, a core feature of a complex learning system was enabled by the elearning process and valued within the eP platform. Critically for Frankie, as her fears of being judged by others lessened she became more able to recognize how to adapt her ideas and plans to fit the complexity of her own students’ needs.

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Teachable moments
“Actually, it wasn’t just my peers and mentor teachers that gave me lesson ideas – my students did too,” Frankie admitted. “I have an entry here that is about a teachable moment – you know, one of those times when someone brings up something you weren’t expecting or that you hadn’t planned for but it’s valuable and you just go with it, instead of moving back to the Lesson Plan.”

Shelley commented. “Like winging it?”

“No exactly, but sort off. On my three-week practicum my class had to learn songs for the special Earth Day Assembly. Two students really took to one of the songs and made up actions to match the words. The next rehearsal they showed the class and me. I was blown away – they went perfectly with the song. I decided on the spot we would use them. At the time it didn’t seem like a big deal but my mentor teacher actually took a picture and pointed out the teachable moment to me. Because of her, I included the experience in my eP. Look, here is the picture of the two girls and the reflection I wrote about it:

I believe it is clear that I created a safe environment because if the two girls who made up the actions had not felt safe and comfortable in the classroom, I believe they would have not wanted to make up the actions and share them with the rest of the class. It is very important to acknowledge the teachable moments, to recognize them as they happen in your class, then take advantage of them as a teacher. As a teacher you would only be able to do this once you are comfortable with the class, and once you have created and maintained a safe and challenging environment in your classroom.
“That’s awesome!” Shelley exclaimed. “The fact that you felt confident enough to make that decision and that the kids listened to you is so cool. You were really teaching there.”

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**Reflection**

Rather than seeing learning in discrete blocks of information, Frankie learned to use her eP to weave knowledge from her peers, instructors, and students with her own self-learning. She was not as focused on content as much as the interconnected experience with students that is naturalistic and organic rather than mechanistic and contrived. Frankie’s reflection shows how she embraced the complexity principle of decentralized control where the learners organized themselves, within the conditions she created. In this example she shows how she was more willing to let learning emerge, encouraged by the teacher, rather than trying to control all aspects of her own and her students’ learning. And as Frankie shared her eP reflections with Shelley, she was continuing her own learning and teaching Shelley at the same time.

**Phase 4: Course-based insight**

“Your eP is really good. I think I am starting to understand how it could be useful. Talking to you has opened my eyes.” Shelley admitted.

“It’s funny you should say that actually because one of the things that helped me improve my entries was having someone to talk to about them.” Frankie said.

“Really? Like you had an eP partner?”

“Sort of. In our seminar class we usually submitted our entries to the instructor for feedback but part way through we were shown how to send them to a peer for feedback from them instead. At first we thought it was a bit of a cop-out by the instructor but once we had a chance to read each other’s work it made a big difference. I got new ideas about what to write and it was nice having someone to talk to that wasn’t a teacher – someone more informal. I guess there was less pressure showing it to a classmate.” Frankie confided.

“So, which entry did you send? if you do not mind showing me?” Shelley asked.

“Well, I wasn’t sure at first which to pick. I had chosen to create some autobiographical pieces about my teaching and learning experiences for seminar and I had an entry about them. It’s about how by doing my own writing and reflecting helped me see that the teachers who made a difference were the ones who created a safe place to ask question, deal with challenging issues. When I was in middle school I had a teacher who helped our class see the negative judgments we were harbouring towards Aboriginal Peoples. It really stuck with me and now I try to make connections to Aboriginal Peoples when I am teaching. And the funny part is, the peer who I ended up exchanging entries with was Métis. So my ideas surrounding Aboriginal Peoples became much more personal because I wasn’t just sharing writing about a group of people who were distant from me, I was also sharing writing that was about a classmate. The thing is having her respond to that entry was incredible, I learned about her and she saw me in a different way. Talking with her allowed me to explore and question my beliefs further as I was becoming a teacher. We both felt safe to grow and examine our preconceptions.”

“I think I know what you mean. In my English Lit class last year we had that kind of environment. You could say anything about the texts we were reading and feel like you wouldn’t be attacked for it – rather you’d be asked to justify your point. But it was the way our prof set the boundaries that made the difference. We felt comfortable so we could take risks.” Shelley said.
“That’s it. It’s about making students, all students, feel safe and included in their learning. Here’s the piece I wrote about it:

My experiences revealed within this writing help to explain why I believe in empathy and breaking away from all judgments, and those beliefs have been carried forth into my approach to teaching. Thus, writing this autobiography allowed me to analyze my past experiences, and as a result of this personal reflection many of my experiences with teachers and my own teaching experiences were revealed to me in a new light.”

“That’s really powerful. So first, you reflected on your own writing and then shared it with a peer for another level of feedback. It helped you create a deeper sense of your teaching philosophy. We’re talking about teaching philosophies in one of my classes at the moment, it seemed so dry until now.” Shelley commented and smiled.

“You’ve got it. I was able to see my past influences, my present ideas, and how those fit into my idea of who I want to be as a teacher.”

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Reflection

Learning how to teach is personal and connected to prior experiences and understandings (Munby, Russell, & Martin, 2001). Through her eP development Frankie was able to better make connections, across courses, field experiences, and prior learning. Her willingness to share artifacts and ideas created spaces for conversation that led to shared learning, between herself and her peers and for Shelley, in natural and authentic ways. Here the nested nature of the learning process in a complex system becomes evident (Davis & Sumara, 2000). For Frankie the networks of her knowing were becoming increasingly nested in each other as she linked her prior experiences to her new encounters that led to a sense of personal, social and professional knowing.

Phase 5: Final/Late Field Experience

“I’ve got to go soon, but is there one entry that you’re really happy with?” Shelley asked.

“Well, this is my most recent one and it’s about something I’m really proud of. For my final practicum, I was in a grade 1 class and my mentor teacher and I were planning the lessons I was going to be teaching. The cool part was that I also worked with the other grade 1 teacher and her student teacher too, a real community effort. In math, the students were going to work on Numbers to 100 so we were thinking of ways to make it very engaging for the students. My class was very lively, so I knew I had to get them moving or singing or something more than just doing pencil and paper tasks. We talked about possible activities and the one that really made sense to me was creating a Hundreds Chart that was big enough for the students to move around on. I used a painter’s tarp, electrician’s tape and a sharpie to turn the blank canvas into a giant numbers chart. It was totally a labour of love to get it measured out and ready. But it was totally worth it. Each day we used a scavenger hunt to have the students search for numbers on the chart and stand on them, then call them out. Later in the week we added patterns to the things the kids had to look for. It was such a fun aspect to their lessons and they wouldn’t let me forget who still needed a turn. They wanted Math to last all day! I felt so pleased that this huge project turned out to be a huge tool for their learning.”

“What a super idea! But it must have taken ages.” Shelley said.

“It took a while but it made such a difference to the students. Here’s the entry I wrote:
I think this lesson ran so smoothly and was one of my best because I had collaborated with my mentor teacher as well as another student teacher. We came up with so many great ideas and I appreciated the brainstorming time with my colleagues. I also felt the lesson ran smoothly because I was so prepared for the lesson with the chart and the resources all ready to use. The children just needed to be focused on the task and then they were off. They barely needed me to help.”

“I’m really looking forward to that part of teaching- working with my colleagues to come up with great units and lessons. Listen I have to go - and I didn’t get one entry written! I do have tons of ideas though, thanks to talking to you. I really appreciated you sharing your eP.”

“Well the last idea I want to leave you with is that this conversation is going to be my last entry! I realized as we were talking that sharing my eP with you meets another competency - the one about teachers sharing ideas with colleagues and the community. Do you mind if I take your photo as one of my artifacts and write a little bit about what we talked about? (Snaps photo of the two of them.) Thanks Shelley- reviewing these entries with you has helped me see my own progress, it was like a practice for exit interview.”

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Reflection
Frankie and Shelley’s accidental conversation in the computer lab provided an authentic learning situation where both gained from sharing and were ready to listen to each other. This encounter modeled the power of collaborative learning in a complex system. The teacher education program creates the conditions for learning to be a teacher but needs a network to form between the students and their learning facilitated by the eP process. This eP encounter highlights the need not only for instructors to guide learning but for students to be able to shape their own and each others’ learning experiences and attitudes.

Conclusion
Figure 1 highlights the three themes that have emerged from reviewing forty-five pre-service teachers’ eP entries and interviewing eight pre-service teachers who had finished the program. The first theme relates to communication about learners and learning enabled by the neighbourly interactions that the eP process allows. The more interaction there is between pre-service teachers in the program the more likely the pre-service teachers are to create spaces for sharing and thinking recursively about what they are learning. When information is shared between prospective teachers as learners, they make connections between what they already know and the new information in a process they recognize as recursive and transformative learning. They then weave this together to create a new understanding of what they are thinking about. Conversations that encourage this to happen are imperative for pre-service teachers to realize the internal diversity of the complex system they form. It is the responsibility of the program and its faculty to help create the conditions where diversity is valued and unveiled, thus contributing to pre-service teachers and program on-going development. It is also a powerful model of what can happen for pre-service teachers when they begin their careers, not as individuals but as active members of a learning community of professionals.

The second theme that arose from reviewing the data relates to the shift that some pre-service teachers experience in their thinking about their learning as they become aware of their forming teacher identity and their role as students. Many pre-service teachers come into the program with a traditional and positivistic view of their learning. This is evident as they start the program
and as “students getting a good grade” are very focused on the number of eP entries that they must complete by the end of the program. The entries can be seen as top-down imposed, as a chore or a list of things to be checked off, rather than a tool for learning. As the pre-service teachers progress through their program, some get stuck in this “student” mindset but many begin to change their thinking about the eP process. The eP becomes recognized as a place to grow and record growth, a bottom-up process of organizing random events into a coherent sense of becoming a teacher, a place to invest in oneself as the checklist focus fades. When pre-service teachers use the eP for themselves, rather than because they were told to, the focus of the entries changes from pleasing others to exploring self becoming a teacher, structured but open to possibilities. The focus moves from quantitative to qualitative thinking about the growing awareness as teachers about how learning happens for them and about the diverse learners in the classrooms they have encountered and will meet in the future.

Making learning personal as the focus of teacher and teaching is the third theme to emerge from the data. Pre-service teachers have a difficult time getting beyond the idea of learning being equated with content to be covered and the role of the teacher as controlling the class. This is embedded in their understanding of learning, for many, because it is what their own schooling was like. Instead, by using the eP as a tool to evaluate and reflect on their learning, pre-service teachers begin to connect to the bigger picture of what is being taught; they see how their learning and their students’ learning is nested in prior experiences. They begin to realize that how something connects to their students, or how their students relate to a concept, event or ideal is really the moment when exciting learning happens. This is when learning is transformative, naturalistic and a part of an ecology of knowing. This learning happens in authentic situations and often stands out for pre-service teachers as what meant the most to them from their lessons. Making the learning personal makes it stronger. Pre-service teachers see this happen while on their practicum in teachable moments but it also happens within their own program when connections are made with peers in unique ways. By creating an intimate and personalized sense of what it means to become a teacher, teaching becomes about creating the conditions for learning to emerge, sometimes surprising learning, but always meaningful.

The evidence presented in this paper supports the idea of using the eP as a space for pre-service teachers to address the complexity of learning to teach in personally and collaboratively meaningful ways. As Munby et al.'s. (2001) review of teacher knowledge research noted, it is the ability of teacher education programs to contextualize professional knowledge within students’ personal beliefs that enables a student to become a worthwhile teacher. The eP process enables the students, as a part of a dynamic teacher education program, to inter-connect in unique but important ways as they adapt to the environments of their experiences. It is this inter-action that Waldrop (1992) described as emergent systems where the whole becomes greater than the sum of the parts, that enables a teacher education program to become a complex system that is adaptive, emergent and self-organizing. In this way ePortfolios can enable teacher education programs to address the fundamental flaw of fragmentation. Rather than arbitrarily stitching together a teacher’s body of knowledge, an eP can create the spaces, if used as a pedagogical tool by students, to enable organic and authentic learning to grow into unique yet shared understandings of learning to teach.
References


Zeichner, K., & Wray, S. (2001). The Teaching Portfolio in US Teacher Education Programs: What We Know and What We Need To Know. Teacher and Teacher Education, 17(5), 613-621.