

## **Stories of Technology: Shaping School Landscapes<sup>1</sup>**

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*In the midst of studies of teacher knowledge as storied knowledge lived out on storied landscapes (Clandinin and Connelly, Knowledge Landscapes, Shaping), Shaun Murphy began to talk with me about the possibilities of pursuing graduate studies and research. Shaun is a primary teacher in a rural school division outside the city where the University of Alberta is located and where I work as a teacher educator. Initially Shaun's stories were of working in his in-classroom place and negotiating border crossings to out-of-classroom places. Shaun and I quickly realized that we shared a passion for trying to understand life as composed and lived out narratively and we felt comfortable pursuing this work.*

*Increasingly Shaun told stories about technology and its shaping influence on his professional knowledge landscape. As someone who has only gradually become aware of the ways that technology was shaping my landscape, I was interested in thinking about how the rhetoric of technology was being pushed down what we call the 'conduit' from policy to teachers' professional knowledge landscapes (Clandinin and Connelly, "Teachers' Professional Knowledge"). We realized that the story of technology had a pervasive influence on that landscape as it entered via policy and research as well as through the stories of parents and the public. As with everything that is funneled into schools, the story of technology came with a moral push, a push that said that technology was 'good' for the education of children. 'Good' teachers, 'good' curriculum and 'good' schools involved technology in the education of children. Shaun and I began to wonder about what stories of technology were alive on his professional knowledge landscape and about how these stories were shaping teachers' stories, school stories and the story of school being lived out on the landscape. Shaun wrote a research proposal for his district that would allow him to explore these questions.*

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During the 1997/1998 school year a group of three teachers met with me to plan and discuss technology education at our rural school. The following school year, 1998/1999, the group expanded to include two new teachers. These teachers were part of a study that was funded by a grant from our school board. The impetus behind the study was to look at the ways that computer instruction could be delivered in our classroom settings. The six teachers paired off and planned and taught lessons together as part of the study.

The study incorporated teachers and classrooms across divisions and represented grades kindergarten, two, three, four, six, and seven. Most informative for the teachers was the opportunity to explore, through conversation, ideas and thoughts related to electronic technology use in the classroom. From these discussions teacher pairs went to plan units and activities in their classrooms. Some of this planning was in response to provincial outcome requirements for technology in schools as well as a reflection of the goals and expectations of the individual teachers.

*I initially told my story of myself as someone who was technologically inept, around a plot line in which I storied myself as not using technology in my work. Gradually, however, I began to see that I relied on electronic mail and data transfer systems for my research as well as a way to be part of a scholarly community outside my home institution. While I now depended on technology in these ways, that is, I lived a story as a user of technology, I continued to tell a story of not being a skilled user of technology. This telling, in many ways a cover story of the ways in which technology shaped my life, allowed me not to push myself to learn more about technology. This cover story also made it possible for me not to figure out how to bring technology into my teaching and to make the ways it shaped my research more explicit. Shaun's story intrigued me.*

When I first arrived at my school in the country two years before this study, I allowed a story of being a well-versed teacher in technology use in the classroom to become my cover story. The secret story was that I mainly used the computer successfully for reporting and personal writing and liked working with students in a lab setting. My perception of how others storied my technological savvy was that they viewed me as a techie, someone adept at the workings of computers and up-to-date in what was available. I realized that I was storied as having a wealth of information about programs and hardware applications. The secret story was that I did not. But I did not tell others my secret story. I saw the cover

story as an impetus to move beyond my current lived story. I let the cover story carry me along and as it carried me forward I began to explore technology in order to become more proficient and allow for greater application in my classroom. This new story, however, did not match up with the sacred story of technology in schools, the sacred story referred to by Crites as “stories, which in their secondary, written expressions may carry the authority of scripture for people who understand their own stories in relation to them” (Crites 295).

*As Shaun began to work on his research with the teachers and children in his school and classroom, he began to tell stories of how he was both shaping the stories of technology in his school and the ways that technology were shaping him. It was the following three stories, one of Shaun in his classroom, Tony’s story, and Emma’s story that became the narrative texts that helped us begin to see how the story of technology sent down to the professional knowledge landscape shaped storied lives and how storied lives shaped the story of technology. In the next section, we tell and retell each of the three stories.*

### **Shaun’s Story**

During the 1996/1997 school year I became more computer literate. This was prompted by the departure of some close friends who moved overseas and my desire to keep in contact with them more regularly. When they left, I bought a modem in order to fax letters to them and to use email with their daughter. It was exciting. The use of email made me feel as though I was getting more of a snapshot of Jane’s daughter’s everyday life at an Australian university. When I wanted to, I could write a letter and send it off, knowing that the letter would arrive while the ideas in my mind were still fresh. I began to email others and as friends came on and off line I was able to stay in closer contact with their lives, particularly those who lived some distance away and with whom I desired more contact. With this new found fascination for email I came to school having an idea for a social studies unit based on emailing letters to other schools at various points around the globe. This idea was made easier in my classroom by the presence of a particularly technologically adept seven-year-old named Tony. He and I started emailing back and forth and I learned a few things from him. At first, I had the students create their letters at school, save them on disc, and then I sent the letters from my home. Soon after, I convinced the principal at my school that this was an interesting

idea to explore in the classroom. He gave me the go ahead to get an internet hookup in my class. He felt that one of the ways the school would enter into Internet use was through teachers bringing themselves on line as they felt comfortable. The students began emailing on their own at school and the daily checking for new letters became a highlight of the morning. Everyone took a turn downloading the mail. This work soon expanded to rudimentary research by the class on the Internet. The research centered around natural disasters. While I don't think the internet taught the students anything a book would not have, it did provide them with information not available in our school library. In addition, the internet was exciting, it was new, and in these ways it held the students' interest.

Out of this experience other ways of using technology began to emerge in my classroom and my students began to write more frequently on the computer. They developed stand alone interactive text documents that they used to present information. They began to use draw and paint software to illustrate reports. The students were often more successful at these tasks in groups and the learning in these situations seemed stronger than individual work would have been. The students tended to play with the information more and, while I spent some time focusing them on their tasks, this playing allowed them to explore uses of the technology beyond what I planned for in my lessons. Much of this use was triggered through Tony, the seven-year-old computer expert. He brought in various applications and programs for me to use and explore. I was instrumental in providing the space for the exploration of the technology by the students, but he was instrumental in jump starting the program and introducing me to a larger world of applications.

My class was not the only grade two class at the school and the other class had limited exposure to computers. The other class was storied as having poor behavior and the period during which they were to have used our school's computer lab was spent in their classroom doing prosocial skills activities. This went along until the story of my classroom's use began to be told out on the playground. This telling eventually became information for parents and the discrepancies in the stories of the two classes created a sense of tension on the school landscape. Concerns about a widening gulf of student experiences caused consternation on the part of the parents and they began to call for restitution. The other class began intensive use of the computer lab with their assigned teacher for that period and with the principal. Part of this involved using my class as instructors and the use of Tony as an instructor separate

from the class. For the most part, this instruction ameliorated the concerns of the parents and the tension which existed began to dissipate.

By this time there was a wide range of skills within my class. Some students did not seem as keen as others and their interests did not lead to as much exploration as others. Other students began to focus on certain areas of the technology applications and, therefore, their focus became narrower. Keyboarding skills held back others and this constrained them since it took a great deal of concentration for them to produce even short pieces of writing. This high effort level caused these students to look for other ways to use the computer when given a choice. But other students found that the computer greatly increased their writing productivity. One group of girls who were friends, two of whom were strong readers and the third a strong writer, began to produce long text documents. They preferred to write on the computer and began composing on the screen. Their writing included letters, creative story writing, and small reports. They demonstrated a greater understanding of the keyboard and their eagerness to write longer pieces was facilitated by a cooperative competitiveness among them. Tony continued to set a tone in computer use through showing others interesting things he could do. He was often disgusted by the limited range and age of the technology and the support applications the school had in its possession. By the end of the year the students developed a comfort level in technology use and a repertoire of skills. These skills exceeded what I previously planned for in my technology teaching and I was awakened to the possibilities that exist for student computer use in school.

### **Retelling Shaun's Story**

*Shaun begins his story by telling of himself as someone who values his connections to his friends and as one who desires to maintain close contact with people he sees as friends. Making and sustaining connections with people is, it seems in this telling of Shaun's story, a narrative thread, one of the ways he knows the world. It is his desire to live in close relation with a friend, Jane, who lives a great distance from him that impels him to begin to make use of technology. As he engages with Jane and her daughter through the use of computer technology, Shaun realizes that he can sustain other relationships with friends in similar ways. Technology becomes an integral part of the story of how he maintains relationships with others in his personal life.*

*As Shaun realized that he could sustain relationships in his personal life through electronic technology, he began to think about the ways that he might use technology in his classroom. While there is no mention of how he encourages children to form relationships with each other in this story, it is an important feature of how Shaun knows his teaching. It is not surprising that Shaun brings technology into his classroom to encourage children to form relationships with children in other classrooms in other parts of the world. He brings into his classroom teaching his knowing of teaching through relationship building together with his new found knowing of computer technology as a way to sustain relationships.*

*Shaun's stories of teaching were being lived out in a particular school context, in a particular place and time on the professional knowledge landscape. His principal was, at that time, telling a story of school in which teachers would come to technology use through bringing themselves online as they felt comfortable. Shaun's story fit with the principal's story of school and the children in Shaun's classroom began to be storied as computer users. As the children began to tell stories of themselves as computer users, they began to see other ways computer technology could be used. They improvised on the theme of connecting with others to include finding information, writing, and playing with information. The school stories about the class as technologically proficient began to be told to other teachers, other children, and parents.*

*To understand the unfolding story, we need to look again at the way Shaun's teaching story and the stories of his classroom were situated on the professional knowledge landscape with other teachers, other children and other classes. There was another second grade classroom, a classroom storied as one with 'poor behavior,' as one in need of 'prosocial skills.' Furthermore, the school story, not named but lived out, was that prosocial skills needed to precede computer use.*

*The school stories of these two classrooms as they were being told in the school and in the community quickly became conflicting stories, stories which lived in tension. One classroom was storied as providing exciting innovative experiences for children with computers, the other was storied as providing prosocial skills for children who had 'poor behavior.' Parents began to push for change. The principal intervened in order to shift the stories so they would no longer be seen as in conflict. The class storied around a theme of poor behavior was now given extensive computer time with the children in Shaun's class involved as instructors.*

*While there is much more that is untold in Shaun's story, there is enough to give a sense of a new story of school being composed, a story in which technology is a good thing, something to be valued for all children. When Shaun brought his personal interest in technology to his school classroom, the school stories and story of school began to shift to new plotlines around curriculum and technology. What Shaun's story helps us see is that the story of school shifted slowly, in improvisational ways. Shifts in one plotline influenced other plotlines being lived out, not in linear predictable ways but in subtle ways, ways which slowly impacted on other teachers' and children's stories and on the story of school being lived and told.*

In my story we first encounter Tony. I felt it significant to incorporate him into my story of technology education as he was a central character in shaping my work that year. His willingness to share ideas and involve himself in technology on the school landscape allowed for opportunities that would not otherwise have occurred. During his year in my class he began to be storied in new ways on the school landscape. Given the opportunity to shine in his knowledge and use of technology, Tony began to move out of the classroom and to be a character on the larger landscape of the school. Even now he continues to have a shaping role on technology at our school and his story continues to change and shape others.

### **Tony's Story**

Tony is a computer boy. He has a large knowledge base and aspires to be a computer programmer. He is eight now. I met him when he was seven. Tony has a strong language base and is a proficient reader. He grasps concepts quickly in all subject areas, but is particularly interested in science activities. Perhaps in this subject he is able to employ his ability to solve problems and to see the outcomes of his endeavors. Tony does not like to write. He finds the process boring and is quick to let me know in any manner of ways including taking a great deal of time getting started, writing pieces of very short length, and expressing verbally his dislike for the activity. This is somewhat ameliorated by using a word processing program, but he still finds the process challenging.

Socially Tony gets along well with many of his classmates. He tends to be a bit sarcastic, but usually other children don't get what he's talking about. He engages them around the use of the computer and allows them to work with him. He answers many of their

questions about programs. He likes the attention this gives him. Interestingly, as the year progressed Tony became more involved with other students at recess as well. He moved from playing with only one boy to playing soccer with a contingent of other students. He even tried to organize them into a league, but I suggested that the point of soccer at recess was to just go out and play, not to be too organized. He took my advice and dropped the idea of setting up schedules and teams. He likes to demonstrate his ability and intelligence in many situations. Tony's skill with computers shaped my experiences throughout the year. He introduced me to a stand alone text document application that was an interactive program for the students to use. The program was incorporated into a unit on magnets in which the class was to build a toy that used a magnet. The students used the program to create an advertisement for the toy, an assignment that involved drawing a picture of the toy in a drawing program and importing it into the interactive application. The students then wrote up a commercial for the toy which was displayed below the image. The application allowed the picture to be turned into a button and, when clicked, a small paragraph would come on screen that explained the materials used and how the toy was built. The class had a lot of fun with the interactive program and did some interesting presentations by projecting the program onto a screen in the classroom. Thus, the class and I benefited from Tony's knowledge and desire to share his information with others. We went along as a group playing with how the technology worked and learning how to import and set up button fields. The students were extremely proud of their work and showed their demonstrations to a couple of classes.

Often when I was at the computer during class time Tony would wander over. If I was struggling with something, looking for a way to do something different, it would not be beyond him to push me aside and to show me the things he knew. As far as instructing went, he had the information, but not the patience to let others find their way. His input was beneficial to me and his technology know-how and desire to work with the computer allowed me insight into applications I would not have known, used or probably encountered. He also was helpful when it came to some of the more mundane activities associated with limited access to computers. He willingly moved files for me, copied and pasted class documents together and taught his classmates.

In the fall, as part of an inservice, four teachers from our school took part in a Web page construction class. We decided to take students along with us because we hoped to have them involved in



the generation and maintenance of a school Web page. Even though Tony had moved on to another grade, he immediately came to mind, so I invited him. At the inservice Tony demonstrated great proficiency working with the Web page software. He informed me that he had taken a course over the summer on Web page construction. He quickly set up his own Web page in the class and moved beyond all of us with great speed. Luckily I had positioned myself next to him and spent a fair bit of time looking over his shoulder and moving aside when he helped me by doing the work for me.

### Retelling Tony's Story

Tony brings much to the school technology landscape. His computer technology learning has taken place on an out-of-school landscape, the space outside of the classroom that influences the in-classroom place (Clandinin and Connelly, *Teachers' Professional Knowledge* 25) and the technology he has access to is more powerful than what is available at school. In response to his ability and the technology curriculum, Tony is a student for whom challenge opportunities need to be created. Luckily Tony is self-motivated in the area of technology and is willing to work with the technology available in school. Tony became an exemplar of what is possible in technology learning, particularly with younger children.

In later conversations Tony expressed a desire to become a computer programmer when he gets older. He is like the bright student in math, science, or language arts where an interest in a subject area steers them into related fields of employment and further study. However, it is his access to technology outside the school that has provided him with opportunities that developed the skills he employs in this area. Tony's story challenges the resources of our school as we struggle with policy and finance in order to keep up with the demands of technology and to meet the growing needs of our students.

The skills that Tony brings to school have the power to shape our school landscape. As we see, Tony became a defining force in shaping the use of technology in my classroom. His eagerness to share information and bring in outside resources augmented the curriculum in the classroom and provided other students with opportunities they would otherwise not have experienced. Because of his high profile on the technology landscape of the school, Tony began to shape our expectations of the other students.

We began to wonder, if Tony can do this, what were we doing to provide experiences for the other students who did not have access to the opportunities Tony did on the out-of-school landscape. We began to look at ways to connect to the internet and to use email within the classroom. With Tony's help, new applications entered the school landscape that provided challenges for students and teachers.

Interestingly, Tony was having a stronger influence on the school landscape with his aptitude in technology than, for example, a bright math student in the classroom. This is reflective of our current fascination with computers and their impact on the school landscape. The sacred story of technology use in the classroom provides a space for students with Tony's ability. Media and marketing on the out-of-school landscape, which influence students away from school, makes someone with Tony's ability 'cool.' Fifteen years ago he would not have enjoyed the popularity or recognition that now go hand-in-hand with his skills in the area of technology.

As we see in Tony's story and mine, Tony had a shaping influence on me and the learning taking place in the classroom. He shaped the curricular experience of the students in that and subsequent years. Teachers look forward to teaching Tony because they have heard stories of the information and knowledge he will bring into their classrooms. Tony's current grade five teacher recently expressed delight at what she will learn from him during his year in her classroom. It is important to recognize the impact Tony's ability is having on the curriculum of the school and to wonder at what this means for teaching and learning. Just as we wonder what Tony will be doing in the future, it is also interesting to look back and wonder what the school landscape would be like if he had not shaped it in the ways that he has in the past three years.

Tony has been an individual who has shaped the stories of technology on the school landscape. This shaping has taken place in and out of the classroom. His position as an exemplar on the landscape shapes school stories about providing technology education to students and methods of delivery within classrooms. As Tony moves through his education at the school and enters new grades he brings his story with him and, in turn, influences each new teacher and the experiences in that classroom. The story of Tony is one of being 'cool' and savvy in the use of technology.

Technology has made shifts on the landscape and opened spaces for individuals. We can see that it has created a space for Tony and, from this space, Tony interacts with peers and teachers. This cre-

ation of space has made places of transition for students and teachers alike. Some view the space as hostile and avoid entering into technology use. Others see it as an opportunity for growth and movement. Teachers enter the stories of technology in many ways and their stories shape and are shaped by their interaction with technology education. On the landscape of our school there is no individual who has not been shaped by technology. On such a landscape we encounter Emma and her story. Emma's story is one where we see a teacher move hesitantly into the study and emerge confident in her ability to contribute and overtly shape the school landscape.

### Emma's Story

Wondering about her ability to be able to contribute to this study on technology, Emma decided to take a chance and sign up as a participating teacher. She was unclear about what the study entailed and did not tell a story of herself as a proficient user of technology. Emma considered herself to be the least informed teacher in the study. Her major concern was that she would hold everyone back. Accompanying these thoughts was also the idea that she would not be part of the study based on the friendships that existed between members of the study and other colleagues.

Emma, however, did become part of the study. She joined a group of three teachers who would be involved in the work over the year. It was after joining this group that she heard about the study and what it would involve. Emma's anxiety then began to rise. She began to wonder what she had gotten herself into. Through conversations with the group Emma eventually gained a clearer idea of what the study was about and she began to see a place for herself in the work. She was also made more comfortable as part of the study involved money for teacher and student training. She saw this as a way to raise her level of understanding and to make her more adept in the use of technology. She described herself as feeling less anxious. However, as the group began to talk about play in relation to computer technology learning, up went her anxiety again. When Emma thinks of play she thinks of the playground, of a place where students make their own rules, where there is little teacher structure, and nothing formal. Emma sees her role in play as a facilitator. What place, she wondered, would there be for such a teacher in a study on technology. Something, however, was about to decrease her anxiety once again.

One area the study wanted to focus on was a comparison between a more formal teacher directed framework and a student led framework. Here Emma could see a place for herself. She would be part of the group looking at teacher led instruction in technology learning. That way she could block in times for technology teaching and facilitate the learning of her students. Her anxiety began to decrease. This was a turning point for her. She aligned herself with Roz, another teacher who was also interested in looking at how teacher led instruction informed students in a technology setting. On the way back to their rooms after meetings the two talked of adding faxes, telephones, and other electronic equipment to the study. Now the focus was not just computers. Emma knew about faxes and telephones. Now not only did her anxiety decrease, she even began to feel comfortable. Working with Roz made her feel a part of a group and, in her conversations with him, she realized that she even did know some things about computers.

As soon as she realized she was not alone, Emma's fears began to die down. It became important to her for the students to see her working with and learning about the technology associated with computers. She wanted the students to know that this was a learning process for her, that she was making mistakes and learning from them too. She began to feel that this process was a bridge, that is, as she learned, she showed the students she was learning and then teaching. That was her bridge. As comfortable as she was, however, the idea of play still loomed on her horizon. Play was not a term she associated with the classroom, nor her teaching style. Play was about being unstructured. It reminded her of free time and she didn't tell children what to do in free time. Play to her was about not having anyone else setting limitations; you made your own. Play, however, became a play on words for Emma. For her, what the other teachers were talking about was discovery. This did not mean that she was altering her definition of play. It meant she did not have a word for the type of play the other teachers were talking about. While Emma could understand what the other teachers were talking about, the word play did not work for her. She wanted to find a more appropriate word that suited her understanding.

Emma told a story of walking through the area outside her room one day. A group of students were gathered around a computer looking at a Casper the Ghost CD that one of them had brought from home. Unsure of what they were up to, and the school policy on CD's from home, Emma decided to stop and join in with the

students. When she did so, the play stopped according to Emma. With a teacher in the group, structure entered the activity and, while Emma had hoped to join in with the students' play by questioning them, she also broke down the play because, as an adult, her presence imposed structure.

During the previous school year Emma and her family purchased a computer for their home in order to facilitate her writing of report cards at home. This was a beginning step for her in the use of computers in a different setting, one off the school landscape. Her proficiency in word processing increased through use and through conversation with others about ways to increase her efficiency. When her computer at home began to malfunction and she had to deal with technicians, Emma began to develop an understanding and vocabulary about more technical aspects of computer use. This was significant for her as she began to make shifts in the story she carried about herself and her computer know how.

At home she continued to use the computer for more things and continued to have difficulties with the machine itself. Her computer lingo expanded and now when she visited her relatives, she began to have conversations with her brother-in-law about computers. Her husband and sister-in-law were lost, cut out by the language related to computer use. Emma's comfort level continued to increase. Now she even uses email to communicate with friends in England and British Columbia.

These days Emma's anxiety level is fairly low. She stories herself as a competent user of technology both at home and at school. She feels confident in the opportunities she can offer her students. She feels free to enter into discussions about technology at school and has a vocabulary to describe some of the more technical aspects of computer work.

### **Retelling Emma's Story**

When Jean speaks earlier of border crossings this was very much a part of Emma's experience. In Emma's story, border crossing happened on many levels. Emma found herself using and honing technology skills in many out of classroom places. Her story reflects technology use at home, in professional development and in the place of conversation at group meetings and subsequent partner planning sessions with another teacher, Roz. Border crossing is also reflected in her dealings with technicians working on her home computer and the conversations she began to have with her brother-in-law, a man she saw as a skilled user of computer tech-

nology. Desire for proficiency in technology use on a personal level became important and this began to increase Emma's skill level and ease of use in the classroom. Along with ease of use came other interesting shifts in her story. Emma moved from being an unsure user of technology to being the 1998/1999 co-chair of the school technology committee. Her story reflects aspects of leadership and comfort not only in the use of technology, but in discussions and decision making on the school landscape. Her understanding of the curricular connections possible for computer use and the necessity of applying this knowledge to hardware purchases and use for the school community demonstrated an important presence on the school landscape.

Border crossing also became important as Emma listened to other team members' stories and moved into a place of community. When I think of borders, my understanding is shaped by Gloria Anzaldúa. Anzaldúa defines borders in this manner: "Borders are set up to define the places that are safe and unsafe, to distinguish *us* from *them*" (Anzaldúa 3). Emma spoke initially of concerns about being outside of the group because of existing friendships that were brought to the beginning of the project. These initial friendships set up tensions on the school landscape and staff members began to tell stories of the group as a closed one. As we see with Emma, concerns about how welcoming the group would be added to her initial hesitancy about joining the study. What became instrumental for Emma in feeling part of the group, in opening up places for border crossing and understanding others, were the stories the group shared with each other and the work that was done in partnerships.

Sharing her cover story was important to Emma. She did not view her story as one of cover, but one that allowed her to feel safe in the group. This cover story, that of being limited in her use of technology, allowed Emma a way of sitting back and finding a place in the group. It helped her test the community and assisted her in safely finding a place within the group. Ultimately it led to her valuable contributions and a secure place for her with the other members. Certainly, Emma's initial story was not about confidence in the area of technology use. Here it shares some of the same dimensions as Jean's story. As Jean tells at the beginning, her cover story about being an inept user of technology allowed her to place herself at a level of technology use she saw as limited, but, as she points out, technology also allowed her to share research and be a member of a much larger academic community. At Emma's previous school, Emma had been very involved in technology. She con-

sidered herself a lead teacher on that school landscape in the use of technology. The tension arose for Emma when she relocated to a new school and perceived other teachers as more proficient than herself. It was through the work with her team partner that she began to see the strengths she already possessed. Emma's comfort level rose within the study group and this is demonstrated in her unwillingness to use the group's word play for the kind of work her students were doing with computers. The larger group found Lugones' definition instrumental in shaping their understanding of play in relation to learning and teaching. Lugones sees playfulness as "the playful attitude [which] involves openness to surprise, openness to being a fool, openness to self-construction or reconstruction and to construction or reconstruction of the 'worlds' we inhabit playfully" (17). For Emma, the concept that she would eventually feel most comfortable with in place of play was the idea of discovery, an evolving form of learning that entailed risks and negotiation.

Emma saw herself as a leader in the classroom when it came to computer use. She also demonstrated security in her role as a teacher as she learned along with the students and made it clear to them that she was a learner with them. We do not know all the strategies Emma used to help her students learn how to employ technology as a tool. Certainly she suggested that she felt that she imposed structure in the class and that her presence sometimes shut down the conversations that students have when an adult is not present. This structure does not seem to preclude opportunities to make mistakes and it is obvious that Emma was open to the idea of discussing mistakes in the process of learning.

Emma's story is one of shifts in both her secret and cover stories. She finds that fluidity on the multiple landscapes she inhabits allows for an increase in her knowledge base regarding the use of technology. She expresses a willingness to discuss her growth not only in the group but on the classroom landscape as well. As her level of comfort shifts, Emma's story on the present school landscape became more aligned with her last school experience. Not only did the students in the classroom benefit from this growth, but so did the landscape of the school.

### Conclusion

*As we turned to retell our stories of life on the professional knowledge landscape of Shaun's school, we began to notice the many ways in which the stories of school and the stories of teachers and*

children were shaped by the new technology policies that were filtering down onto the landscape. As the policy came down it was not so much that we were able to see or hear what one might imagine as straightforward prescriptions locking into place. Rather what we saw and heard and felt in the lived stories were the ways that individuals on the landscape were subtly shaped by the policy. Tony became, not a child who lived on the edges of what was the mainstream in the school, but a child storied as a computer boy, a boy with knowledge that was useful to teachers and his peers, a boy who could use computers and help others to use computers in cutting edge ways. Emma became, not a teacher who did not feel competent to use computers but a teacher storied as a leader in computer use in the school. Teachers and children, as Emma and Tony's stories help us see, were shaped by the policies.

But teachers and children also shaped the ways that the policies were lived out in practice. The teachers, Shaun, Emma, Roz and others came together in a research community to try to imagine how computers could help them make sense of engaging with children. They used the new computer policy as a way for them to shape their professional knowledge landscape to create a teacher research community. This shaping and being shaped was a process for both teachers and children as well as for the policy. There was a constant going back and forth, an improvisational process that belied what might seem like a straightforward implementation process.

But even this way of thinking about the stories lived and told does not quite capture the complexity of the process. As teachers began to live new stories of themselves in relation to technology, other teachers shifted their stories. As Emma and Shaun worked together, they shifted each other's lived stories, encouraging border crossings so they could learn to play with each other around computers. As children such as Tony became computer users and began to see themselves and to story themselves and be storied by others as users of computers then they shifted the stories of their teachers. Teachers began to story themselves as co-learners with children around computers. As one story began to be lived and told, it opened up spaces for others to tell their stories in new ways. The stories of teachers and teacher stories, stories of children and school stories shifted and shaped other stories as the school years unfolded.

As we learned to look more closely at the narratives of individuals such as Tony, Shaun and Emma, we saw how narrative threads were shaped by the stories of computers. But the narrative threads



*shifted in ways that fit with, and were congruent with, what had been lived before. Shaun continued to teach in ways that fostered relationship and community, narrative continuities in his life.*

*What continually amazed and surprised us as we read and thought about the stories that emerged in the time that Shaun worked in the school is the sense that the policy shaped the school and those who lived within it in unexpected and uncertain ways. For example, who could have seen that Shaun's desire to stay in touch with a friend and a tentative email project with his students could have lead to tension and conflict in how parents saw their children's experiences in the two Grade 2 classes? Who could have seen that Emma would have started to story herself in ways that made it possible for her to assume leadership for technology in the school? These were not shifts in the plot lines that would have been easily predicted by those who sent the computer policy down into the school to be implemented.*

*For us, retelling these lived and told stories has helped us see more clearly how new policies are sent down into professional knowledge landscapes that are already alive with teacher stories, children's stories, school stories. These new policies become part of the already ongoing stories in unexpected and uncertain ways. Sometimes teachers and others can find spaces, as Shaun and Emma did in the research group, to pay close attention to how the policies are shaping them. Sometimes teachers can more attentively and more deliberately shape the policies so that they can begin to retell and relive their stories in more educative ways.*

## Notes

<sup>1</sup> The two co-authors of this chapter, Shaun Murphy and D. Jean Clandinin, composed this paper using a series of e-mail communications.

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