Best Practices in Online Pedagogy: Developing Engaging Interactive Communities by Capturing Digital Moments

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Abstract: *This paper provides an account of a pedagogical strategy for developing authentic interactive online communities. The article reviews a teaching strategy for increasing student engagement through the development of authentic online communities. Using "Digital Moments" as a way to build inclusion in synchronous graduate and undergraduate online courses, the author describes how the teaching strategy increased student participation, developed student ownership of learning and encouraged collaborative processes between participants. In recent years the popularity of online education has increased significantly. This is in part due to its accommodation for anywhere, anytime learning, but it is also owing to the proliferation of high quality courses, as well as the emergence of more engaging learning management applications. Although the growth of online learning is quite substantial, our ability to effectively develop online communities has not kept pace. This narrative account provides a strategy to develop engaging and interactive digital learning communities.*

Keywords: Online Pedagogy, Authentic Communities

Introduction and Objectives

In recent years the popularity of online education has increased significantly. This is in part due to its accommodation for anywhere, anytime learning, but it is also owing to the proliferation of high quality courses, as well as the emergence of more engaging learning management applications. Although the growth of online learning is quite substantial, our ability to effectively develop online communities has not kept pace. With online education becoming an integral part of academic institutions and corporations worldwide, support for such endeavors can be critical to the growth and development of an organization, thus making educators who are well versed in the complexities of e-learning and online communities a valuable resource.

This paper examines a simple yet powerful pedagogical strategy used in undergraduate and graduate online courses to create engaging learning communities. The author`s goal was to replicate the relationship-building moments which naturally occur as students enter a face to face class before the structured learning begins. In an effort to do this, each week students met synchronously in Adobe Connect. Classes of 20-25 students entered the virtual room to find individual share pods, or personal virtual screens over which they each had control. Within their individual pod, each student uploaded a Digital Moment. The content of the pods could include a variety of pictures, quotes, colours, or links to describe in a single snapshot how the person was feeling, or events that had happened during the previous week. As the course progressed, students began to arrive earlier to class, in advance of start times, and began to look forward to connecting with classmates and sharing their own Digital Moments with others. As a unique pedagogical strategy, qualities which one might not normally associate with traditional online

learning emerged: empathy, humour, risk-taking, compassion and a shared sense of community. From a group of distinct individuals whose learning lenses were geographically and culturally diverse, evolved a close knit community of learners where the playing field was levelled and the traditional roles of teacher and learner became imperceptible.

Good teachers narrow the gap between students and their goals, and they do so in an extremely personal context. Reaching our students means taking risks, and crossing personal territories where meaningful relationships can occur, a notion often foreign to academic culture. But excellent teachers open themselves fully as human beings to their students. They passionately cross the sometimes treacherous bridges that lead to new and often uncharted territory, especially in digital learning environments that are new to students and teachers alike. Eisner (1997) concurs that these "edges can be treacherous but they can also be exciting" (p. 4). As Palmer (1998) states "good teachers possess a capacity for connectedness. They are able to weave a complex web of connections among themselves, their subjects and their students so that students can learn to weave a world for themselves" (p. 11).

Theoretical Framework

The overall theoretical framework for this paper emerges from the integration and intersection of four major areas. First, Mishra and Koehler's (2006) work on technological pedagogical and content knowledge provides a pillar upon which the author examines the use of Digital Moments as an online pedagogical tool. The second pillar revolves around the notion of authentic pedagogy, and the role of the self in learning (Hunt, 1987; Schon, 1987; Palmer, 1998). A third pillar essential to this framework, is the qualitative inquiry approach of Eisner (1998) and the uses of creative arts-based approaches to educational inquiry through alternative modes of data representation (Eisner, 1997). Finally, the structure is complete with the inclusion of narrative inquiry, as this frames the practice of using Digital Moments in online classes to tell learners' digital stories. (Connelly & Clandinin, 1990).

Mishra and Koehler`s (2006) work states that there are three main components of teachers` knowledge including content, pedagogy, and technology. In addition, they state that "equally important to the model are the interactions between, and among these bodies of knowledge" (p. 62). Digital Moments provide a lens through which these elements can be viewed both as a result of, and in spite of the limitations of each component. A second pillar resides in Hunt`s (1987) work on the role of self in learning. This approach is also key to the framework, as it aligns with the author`s convictions that her strategies to create community in f2f classes could also be used in online environments. Thus, the author is encouraged to trust her instincts. Hunt states that

> your common sense ideas and your unexpressed theories, growing out of your own personal experience, provide enormously rich sources of knowledge about human affairs. By beginning with yourself, you are taking advantage of this rich reservoir. (1987, p. 1)

Schon`s (1987) concepts of `reflection-in-action and `reflection-on-action` also frame this work as Digital Moments provide opportunities for shared reflection on the learning process. In concert with this is the work of Palmer (1998) whose claim that "teaching cannot be reduced to technique" argues for the role of relationships in good teaching (p. 11). Thus, developing Digital Moments moves beyond the mere teaching of content, acquiring pedagogical competence or

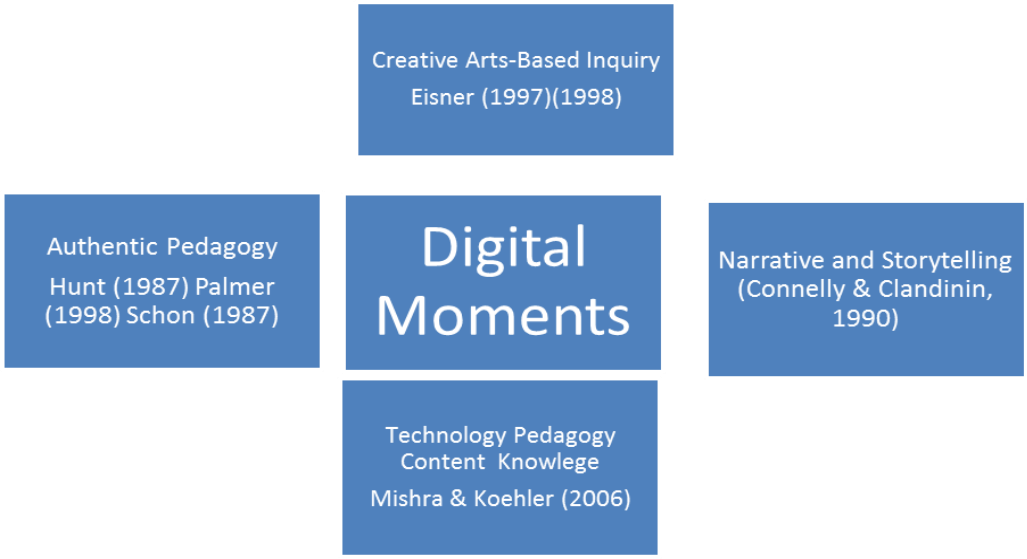
learning new technical skills. It supports the development of instructor-student and student-student relationships.

The third pillar of this theoretical framework rests in qualitative approaches to educational inquiry. Eisner articulates that there are good reasons to use arts-based data, that

> photographs, video and film have enormous potential to help us see a scene and can provide the raw material for interpretation and analysis. The neglect of such potentially powerful resources is due to habit, custom, old norms, and limited views of the nature of knowledge. (1998, p. 188)

This leads naturally to the fourth pillar which revolves around the power of narrative story-telling. "Qualitative studies of classrooms, teachers are usually expressed in stories" (Eisner, 1998, p. 189) or what Lightfoot (1983) calls "a portrait" of the learning environment. Connelly and Clandinin (1990) concur that narrative story-telling is an effective means of analyzing teaching and learning experiences.

At the center of this framework rests a pivot point around which the ideology moves depending on the learner's personal and professional story. Digital Moments depend on each of these elements of the framework: authentic community, narrative storytelling, creative qualitative inquiry, and technological, pedagogical and content knowledge. Essentially, each individual in the class resides at the center of the framework; each member takes a role in driving the process forward. This empowers students and increases accountability for, and ownership of, the learning. In addition, it strengthens the community as people begin to care for each other; the virtual learning space becomes a safe, creative environment. It becomes a learning environment that not only protects our cognitive growth but celebrates the human aspect of the learning experience. While this may be antithetical to the traditions of academia, 21st century learning demands that we re-inject our humanity into the process. Digital Moments are one step forward in this evolution.



Thus, the primary research questions are: How do Digital Moments describe the emotional state and readiness to learn that students and instructor bring to class? How does the development of caring relationships online have an impact on learning? How does this practice of weekly sharing of Digital Moments create an engaging authentic community? How will these personal stories and narratives of learning influence participants' willingness to take risks and learn new technological skills?

Methodology

This project occurred in three phases and was used to test the effectiveness of using Digital Moments as a teaching strategy to create authentic online communities. The challenge of creating an online community given a compressed timeline during a short spring term and the brief synchronous amount of time in class was daunting. Each week students and instructors submitted and shared a Digital Moment through individualized share pods in adobe connect. Each student had ownership of their own virtual pod and control over its contents. These digital moments could represent an emotion, a moment from their week, a quotation, you-tube clip or art work. Digital moments allowed the participants and the instructors to share their stories, to bring their humanity to the learning environment in a safe and respectful way. Each person sharing a digital moment was telling their narrative, a method of educational qualitative inquiry that has a long history in educational research.

Phase 1 was a pilot project to try this new digital teaching strategy and it occurred over one term of teaching a graduate online course entitled "Authentic Assessment." Participants in the pilot phase were 21 graduate students and the instructor who was an Assistant Professor in the Faculty of Education. Classes met three times a week for three hours over a four week period in the summer term. Anecdotal reflections from students recorded in Blackboard chat rooms, audio recordings of Adobe classes, and journal notes from the professor were used to reframe and improve the strategy.

Phase 2 involved using the same digital moment teaching strategy in an undergraduate course entitled "Psychological Foundations and Digital Technology – Adult Education Focus". Participants in phase 2 were 26 undergraduate students in a Bachelor of Adult Ed Digital Technology degree in their 3rd year, the instructor, and a tutorial assistant. Students viewed two hours of video podcasts created by the instructor each week, prior to meeting in Adobe Connect for tutorial for one hour per week over a twelve week period. Anecdotal reflections from students recorded in Blackboard chat rooms, audio recordings of Adobe classes and journal notes from the professor and tutorial assistant were used to reframe and adjust the strategy.

Phase 3 involved re-visiting the use of the Digital Moment strategy in a second term of the graduate course "Authentic Assessment". Participants in phase 3 were 23 graduate students and the professor. Classes met for three hours per session twice a week over a six week period in the spring term. Anecdotal reflections from students recorded in Blackboard chat rooms, audio recordings of Adobe classes, and journal notes from the professor were used to determine how the strategy contributed to a sense of online community. Student participants in the study gave informed consent and were given permission to withdraw from the project at any time. Digital moments were collected by a tutorial assistant and kept in an e-folder for future reference.

Rationale for Methodology

The methodology for this study examined and identified both the personal and professional aspects of students' lives. Using qualitative inquiry and narrative methods of investigation, the journey towards authentic online pedagogy was observed and documented. The process-oriented nature of excellent teaching required the researcher to study learners' lives and stories using Digital Moments. The research methodology used in this study is heuristic, and the concept of online community is described in order to "illuminate the reader's understanding of the phenomenon, bring about the discovery of new meaning, extend the reader's experience or confirm what is known" (Merriam, 1998, p. 30). The research followed a process oriented approach to studying students' stories. This narrative qualitative inquiry was focused on examining the journeys that these learners have traveled along the path to being a member of the online community. Thus, this conceptual framework allowed a circular investigation, which continually revisited the theme of engaging online communities as it was demonstrated in the lives of the subjects. Ultimately, the nature of qualitative inquiry demands that attention is paid to its structural features. Eisner (1998) states that there is no body of codified procedures that will tell someone how to produce a perceptive, insightful, or illuminating study of the educational world. Unfortunately, or fortunately, in qualitative matters cookbooks ensure nothing (p. 69).

There are, however, parameters that can help to define that a piece of qualitative research is noteworthy, and that it has emerged from mere storytelling to achieve educational significance. He reiterates that it is critical to pay attention to "conviction, aesthetics and context" (Eisner, 1998, p. 30). Eisner concludes by advising the researcher to recognize that

> the shaping of a research proposal, the conduct of the research itself and its preparation in text form a significantly artistic and aesthetic undertaking. Method and content are in a state of mutual definition. When you have a conviction about what you believe is important to study or how you think it should be studied, my advice is to pursue that conviction. As long as your convictions about your aims and your methods are supportable, your own rationality will provide the deepest source of your security. (1992, p.29)

Merriam (1998) states that there are four major features that characterize a qualitative study. First, the researcher is interested in understanding the meaning people have constructed. Individual cases in this study focused on the meaning that the subjects have placed on selecting and sharing their weekly Digital Moments. Second, the researcher was the major instrument of data collection and analysis. Third, this qualitative research involved field work, which in this study entailed class recordings and direct/indirect observation. Fourth, this qualitative research used inductive strategies. In this work, the research applied existing models of online learning using TPACK (Mishra & Koehler, 2006) to the subjects in order to broaden our understanding of how engaging online communities have an impact on learning.

Finally, Merriam (1998) believes that the product of a qualitative research study is richly descriptive. This researcher used learners' stories to describe the process of developing meaningful learning and human relationships online. In addition to this, Eisner (1998) concurs that there are several features of qualitative inquiry that make it the methodology of choice for this study. He refers to the unique quality of narrative research by saying,

> qualitative inquiry places a high premium on the idiosyncratic, on the exploitation of the researcher's unique strengths, rather than on standardization and uniformity. Hence, investigators who study schools or classrooms and who engage in that craft called field work will do things in ways that make sense to them, given the problem in which they are interested, the aptitude they possess and the context in which they work (p. 169).

Narrative writing is particularly appropriate to the study of learning communities, since one's relationship with others can have a significant effect on the learning experience. Eisner (1998) states that "qualitative studies of classrooms, teachers and schools are usually expressed in stories" (p. 189). These narratives must move beyond telling the personal story to telling the research story. As Connelly and Clandinin attest, "the central value of narrative inquiry is its quality as subject matter. Narrative and life go together and so the principal attraction of narrative as method is its capacity to render life experiences, both personal and social, in relevant and meaningful ways (1990, p.10).

Data

Data was collected in various forms, including you-tube clips, photographs, words, artistic works, paintings, poetry and written reflections. Student comments from course evaluations and from in class focus group discussions resulted in the summary of anecdotal comments included below. These comments reviewed the effects of Digital Moments on the learning process and the sense of community in the class. Data was representative of several subjects, including but not limited to physics, math, music, art, special education, photography, and journal writing.

Sample Assignments and Links to Data

Digital Moments Samples:
http://www.youtube.com/watch?v=RJPLvWATbsA&feature=em-share_video_user
Steve N. - Physics: http://www.youtube.com/watch?v=s23NGxRAN9Y
Sylvia B. - Art: http://www.youtube.com/watch?v=kO_iXocqFQw&feature=youtu.be
Kate D. - Avatar/special education: http://www.youtube.com/watch?v=c_gibuFZXZw
Joel C. - Flow state meets digital technology:
http://www.youtube.com/watch?v=kduOsBKmy2Q

Sample Comments and Reactions to Digital Moments:

It's so emotional
At the beginning I was so nervous and kind of cynical, so I thought "ok here we go" but now I really look forward to finding my own Digital Moment for the week and seeing everyone else's
I loved it!
I never thought I would get to know people online so easily
Doing this every week makes me actually ask myself how I am doing
I like guessing who puts what in their Digital Moment
I just started using this strategy with my own class and they loved it! Grades 5-6 students really opened up and I used it on the smart-board
This is a great way to get students to express how they feel without words
I think it helps to decrease the kind of stereotyping that you can get when you meet people face

to face
It's really weird finally meeting classmates face to face and feeling like you already know them super well
When I used it with my own class it really helped me as a teacher to track where the kids were at
It's a safe way to express how you are feeling inside, sometimes I think technology is less personal but this was really personal
I actually shared with my peers, which I usually don't do in face to face settings
I found it interesting that you got to know people's sense of humour, without any real cues like you would get in a f2f environment, like body language
My friends reached out to me on weeks when I was struggling
It levelled the field for me as the teachers did it too, so we could see who they were as people, which made me want to contribute more
Really valuable! Best course I've taken in this degree
One week my Digital Moment was about a family member who had died, but she really had inspired me to go back to school so, it was really good to share it with the group
I am amazed at how well I got to know my colleagues in this class; I've had some awful online experiences and this was a refreshing change

Analysis

It is critical when defining research to assess weaknesses, limitations or areas of concern. Qualitative methods often do not generate precise, reproducible results (Eisner, 1997). While social scientists need to reduce ambiguity and increase precision, they also need to accept the value of personal judgment when assessing student engagement. The author was also aware of accurately recording individual stories, without gravitating to what Connelly and Clandinin (1990) refer to as "narrative smoothing, what we have called the Hollywood plot where everything works out well in the end" (p. 10). This qualitative study was limited by the sensitivity and integrity of the investigator, due to the fact that the researcher was the primary source of data collection and analysis. Other limitations included issues related to validity, reliability, and generalizability. Connelly and Clandinin concur that a good narrative piece of research can be measured by criteria such as transparency, transferability, and verisimilitude and they state,

> like other qualitative methods, narrative relies on criteria other than validity, reliability and generalizability. It is important not to squeeze the language of narrative criteria into a language created for other forms of research. The language and criteria for the conduct of narrative inquiry are under development in the research community. It is currently the case that each inquirer must search for and defend the criteria that best apply to his or her work. (1990, p.7)

Because of the researcher's unique background as a professor of synchronous and asynchronous courses, this study was viewed through the researcher's personal lens of effective online pedagogy. Due to this personal research perspective, some aspects of the study may be considered to approach what Eisner (1998) refers to as "educational connoisseurship; the ability to make fine-grained discrimination among complex and subtle qualities; the art of appreciation" (p. 63). As a result of these difficulties, the final criterion for this methodology was that, as an educational connoisseur in the area of digital teaching, the researcher attended carefully to four dimensions of educational criticism; that is, what Eisner (1998b) refers to as "description,

interpretation, evaluation and thematics" (p. 88). Several key themes emerged as critical to the development of interactive and engaging communities.

Major Themes

Developing Social Relationships

The use of Digital Moments began to take on a life of its own beyond the scheduled class time. Some students created their own learning communities on Facebook and LinkedIn in order to stay in touch once the course had ended. In addition, Twitter feeds were used to follow each other and sustain friendships and learning experiences. These extended connections through technology became a web within which students connected on a personal level, a professional level, both emotionally and digitally. This is evidence that "learners are responding to the new technical and social opportunities with little help from the formal education system" and there is "evidence of deep networking and knowledge building in learners' informal practices" (Littlejohn, Beetham & McGill, 2012, p. 551). Learning that is situated in digital worlds must also have a social component to be effective. Kearney, Shuck, Burden and Aubusson (2012) concur that learning is a social endeavour. They identify three distinct features of mobile or virtual learning that include "authenticity, collaborations and personalisation" (p. 2). They refer to a socio-cultural model for virtual learning and the importance of "enhanced collaboration, access to information and deeper contextualisation of learning" (2012, p. 2).

Creativity

Kaufman (2013) reveals that "school is not simply about tests and 'checking boxes' of topics and assignments. Rather, schools today should have a mission of developing students as individuals and igniting their creativity" (p. 79). Students in this project began to unleash the bonds of traditional online courses they had taken, and began to flourish in the freedom of creative practice. Instead of mandating blog postings or required written reflections, students were allowed each week to find their own way, either visually or in words, to describe their learning. Each challenge, each success, became framed by both the personal and professional aspects of their lives, and the learning was constructively shaped by the context of the learner. At the same time, ironically, they began to take more responsibility for their own learning. Being allowed to choose their own Digital Moments to express their learning empowered them to discover the intimate bond between real freedom, self-responsibility and creativity. While many stated they had been indoctrinated by a culture of marks and grades, many reveled in the return to a natural state of learning, one that allowed freedom, innovation and a deeper level of responsibility than many had taken in some time. In previous online courses, the keeper of knowledge had been the instructor. Instead, the expertise of each class member began to take an important place. As roles shifted, the class became a safe place to experiment with new ideas and new technology. While still bound by the university's requirements for final grades, the importance of this waned as the experience of learning gained greater prominence. This reciprocal relationship between grades and actual learning will be explored in future work. No longer bound by the fear of the end result, creative thinking allowed for divergent paths, decided and determined by the learner in conjunction with the instructor. It took courage on the parts of both instructor and learners, but once out of their educational cage, together they embraced the wide open fields of knowledge in the digital world.

Teacher- Learner-Teacher Role Shifts

During the course, the roles in this professional learning community became almost indecipherable. While still within the university context, the instructor fulfilled the responsibility to assign grades to students. But in the learning environment, the power differential became almost invisible. The students with expertise in particular technologies took on the role of instructor, the teacher became the learner, thus empowering learners with the confidence to take risks, make mistakes, and ask for help. This supports the notion that 21C learners must be able to think critically, be problem-solvers and work collaboratively. In particular, for 21C learners in a virtual classroom, they must be able to go beyond the class and use their digital literacy within the context where they work and live. "It is obvious that not only learners, but also teachers need to acquire 21st century competencies as well as become competent in supporting 21st century learning" (Voogt, Erstad, Dede & Mishra, 2013, p. 408). In order to create authentic learning and assessment tools, teachers need to learn how to design such tasks. McNeill, Gosper and Xu (2012) surveyed academics and found that many continued to target lower order learning outcomes. They state that

> universities increasingly value the skills such as problem-solving, critical thinking and creativity, yet the curriculum needs to be designed to support and scaffold development of these skills, and integrating them into assessment strategies has proven a challenge. While new technologies have sometimes been heralded as having the potential to address an apparent gap between the rhetoric of curriulum alignment and assessment practice in universities, academic practice is slow to change, and the uptake of new tools to support the development of higher order skills remains relatively low. (McNeill, Gosper & Xu, 2012, p. 283)

This research argues that if Digital Moments can be used to create learning environments that support academics to learn new skills, then they may create more relevant 21C learning outcomes for their own students. In the digital world, it is imperative that teachers, regardless of academic standing, continually redefine themselves as life-long learners and model this for their students.

De-valuing and Re-valuing

The implementation and acceptance of arts-based and creative pedagogical tools meant a significant 'unlearning' and 'revaluing' of what it means to demonstrate one's knowledge. It became important to unpack how each learner had developed their values about the importance or lack of importance of marks and grades versus the value of the learning process itself. Students began to see how the development of friendships and simple human qualities like trust, caring and compassion were the real foundation for creating meaningful learning experiences. It also helped them to begin to trust themselves; they began to believe there was an authentic self in each learner who could choose which direction to go, which tasks were personally and professionally relevant, and which were best left to others. The level of passion and interest became more important than the grade, and this represented a significant shift in values. As Kaufman (2013) states "development of these skills is purposefully integrated within core content areas in ways that help students find relevancy in their work, a characteristic central to motivation and learning" (p. 79). Contrary to traditional educational frameworks, wherein the power is centered in the instructor or the institution, this model required a re-valuing of where the fundamental responsibility for learning resides - within the learner.

Conclusion

The journey to developing an engaging online community has been chronicled in this paper. But the outcome of the struggle still must be student success. At the end of this course, students produced original work, combining their creative skills and unique talents with the appropriate piece of technology to demonstrate they had mastered the concepts. One student constructively used her life experiences in travelling, her photographic arts and her background in art to assemble a video which was truly inspiring. Her ability to use the technology as a vehicle through which she could express her learning, her way, is the best barometer of success a teacher can have. Another student, with seven years of teaching experience and new to the program, expressed distaste for and a lack of comfort using written text. He integrated the literature on the course to a video which is a model of alternative means of assessing students in digital environments. While a few of the students produced assignments with traditional modes (written work), the predominant feature was that once one student had done something original, the others wanted to learn how to do it. Students taught students; they taught their instructor. As a teacher, the barometers for an engaging class in a face-to-face environment were not that different than online: the creation of supportive meaningful learning experiences; human interaction and sharing of the vital emotional components of learning; valuing and cherishing our mistakes and the important learning that emerges therein; and finally, the best of all, wanting to come back for more. Upon reflection, the author recalls early trepidation about teaching online, having had some cynicism and certainty that the online community could not, and would not, replace a face-to-face classroom. Despite those early impressions, it is clear that creating meaningful, interactive online communities is both essential and possible.

While technology is a wonderful tool, it is the author`s belief that the use of Digital Moments can be an effective strategy for developing engaging authentic communities in an online learning environment. The relationship between teacher and student is an important element in all learning that cannot easily be replaced with high tech tools. Whether the instructor chooses Twitter, Ning, Wikis or Blogs, the development of an engaging learning community remains a key component to successful online learning. By embracing this journey and telling our stories through our Digital Moments, we share emotion and empathy; it serves to remind us that when working with technology or beginning something new one can feel both intense frustration as well as sheer exultation. It is not the piece of technology itself which produces this reaction, it is our human response to it. Likewise, when a tale is told it is generally not done without involving emotion, thus exposing the teacher and learners in ways not found in other pedagogical approaches.

Best practices in digital pedagogy require us to be advocates for creative expression, multi-modal learning, and the inclusion of alternative forms of assessment. Besides the large body of research attesting to the merits of a more creative approach to learning, this approach also nurtures multiple intelligences and allows the more timid or those left behind to ultimately find their voice. Moreover, there are some things that just cannot be articulated through text, and words cannot always convey what students wish to say. So perhaps it is time to not only transform one’s practice, but to also transform academia’s shades of grey with a little splash of colour.

References

Bullough, R., & Pinnegar, S. (2001). Guidelines for quality in autobiographical forms of self-study research. *Educational Researcher*, (*April)*, 13-21.

Connelly, M., & Clandinin, J. (1990). Stories of experience and narrative inquiry. *Educational Researcher, (June/July)*, 2-14.

Eisner, E. (1992). A slice of advice. *Educational Researcher, (June/July)*, 29-30.

Eisner, E. (1997). The promise and perils of alternative forms of data representation. *Educational Researcher, (Aug/Sept)*, 4-10.

Eisner, E. (1998). *The enlightened eye: Qualitative inquiry and the enhancement of educational practice*. Upper Saddle River, NJ: Prentice Hall.

Hunt, D. (1987). *Beginning with ourselves*. Cambridge, MA: Brookline Books.

Kaufman, K. (2013). 21 Ways to 21st century skills: why students need them and ideas for practical implementation. *Kappa Delta Pi Record, 49*(2), 78-83. doi: 10.1080/00228958.2013.786594

Kearney.M., Schuk, S., Burden, K., & Aubusson, P. (2012). Viewing mobile learning from a pedagogical perspective. *Research in Learning Technology, 20*(14406). doi: 10.3402/rlt.v2010.14406.

Kilbourn, B. (1999). Fictional theses. *Educational Researcher*, (*December*), 27-32.

Kilbourn, B. (2000). *For the love of teaching*. London, ON: Althouse Press.

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge. *Contemporary Issues in Technology and Teacher Education, 9*(1) 60-70.

Lightfoot, S. L. (1983). *The good high school*. New York: Basic Books.

Littlejohn, A., Beetham, H., & McGill, L. (2012). Learning at the digital frontier: a review of digital literacies in theory and practice. *Journal of Computer Assisted Learning, 28*, 547-556. doi: 10.1111/j.1365-2729.2011.00474.x.

McNeill, M., Gosper, M., & Xu, J. (2012). Assessment choices to target higher order learning outcomes: The power of academic empowerment. *Research and Learning Technology, 20*(17595) doi: 10.3402/rlt.v2010.17595.

Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

Mishra, P., & Koehler, M. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record 108*(6) 1017-1054 0161-4681.

Palmer, P. J. (1998). *The courage to teach: Exploring the inner landscape of a Teacher's life*. San Francisco, CA: Jossey-Bass.

Schon, D. (1987). *Educating the reflective practitioner*. San Francisco, CA: Jossey-Bass.

Voogt, J., Erstad, O., Dede, C., & Mishra, P. (2013). Challenges to learning and schooling in the digital networked world of the 21st century. *Journal of Computer Assisted Learning, 29*, 403-413. doi: 10.1111/jcal.12029.