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A/r/tography and Teacher Education in the 21st Century
A/r/tography et la formation des maitres au 21e siecle

Sean Wiebe and Claire Caseley Smith

Article abstract

In this article, we summarize research on Prince Edward Island where a Prince Edward Island teacher, identifying as an a/r/tographer, designed a digital and multiliteracies unit, as part of a directed studies course in her Master of Education program. Small in scope, this single participant case study was designed to give a fuller picture to three difficulties teachers often face when teaching new literacies. These are (1) applying multiliteracies theory, (2) thinking across literacies domains, and (3) assessing literacies holistically. Findings are derived from our six research conversations, and our discussion highlights the necessity of artistic ways of being and thinking for teacher education programs in the 21st century.

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A/R/TOGRAPHY AND TEACHER EDUCATION IN THE 21ST CENTURY

SEAN WIEBE *University of Prince Edward Island*

CLAIRE CASELEY SMITH *PEI Public Schools Branch*

ABSTRACT. In this article, we summarize research on Prince Edward Island where a Prince Edward Island teacher, identifying as an a/r/tographer, designed a digital and multiliteracies unit, as part of a directed studies course in her Master of Education program. Small in scope, this single participant case study was designed to give a fuller picture to three difficulties teachers often face when teaching new literacies. These are (1) applying multiliteracies theory, (2) thinking across literacies domains, and (3) assessing literacies holistically. Findings are derived from our six research conversations, and our discussion highlights the necessity of artistic ways of being and thinking for teacher education programs in the 21st century.

A/R/TOGRAPHY ET LA FORMATION DES MAITRES AU 21e SIECLE

RÉSUMÉ. Dans cet article, nous résumons les recherches au sein desquelles un enseignant de l'Île-du-Prince-Édouard—s'identifiant comme un a/r/tographe—a créé une unité numérique et multilittéraire dans le cadre d'un cours d'études dirigées d'un programme de maitrise en éducation. Bien que d'ampleur modeste, cette étude de cas s'attardant à un seul participant a été élaborée dans le but de tracer le portrait complet de trois difficultés fréquemment rencontrées par les enseignants lorsqu'ils enseignent de nouvelles littératies. Ces difficultés consistent à (1) appliquer la théorie relative aux multilittératies; (2) adopter un mode de pensée interlittératies et (3) évaluer les littératies de manière globale. Les conclusions sont fondées sur six conversations tenues dans le cadre de la recherche, et notre article met en lumière la nécessité de repenser la formation des maitres au 21e siècle, pour y intégrer des manières artistiques d'être et de réfléchir.

From 2011-2015, working with Prince Edward Island teachers on a digital and multiliteracies' project, the Digital Economy Research Team (DERT) developed the following threshold concept map (see Figure 1) to describe the key literacy thresholds teachers would need to understand in order to design effective new

literacies instruction, regardless of the medium, mode, or technology they planned to employ in their unit of instruction.[1] The threshold concept map was designed to demonstrate that when one is creating art, one is also in an analytical mode of thinking. Furthermore, as DERT's previous research has confirmed, the threshold between art and research is where teachers' thinking needs to develop (Wiebe, 2013).
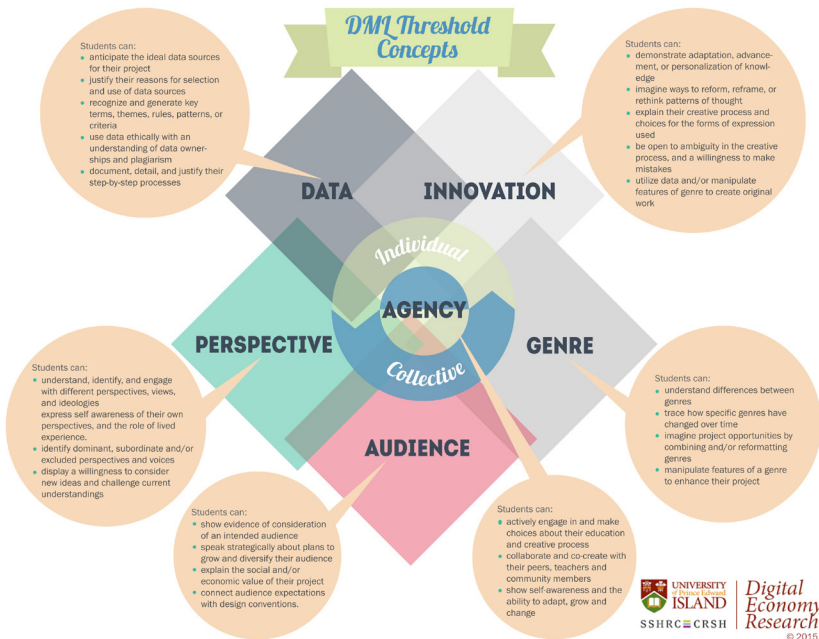

FIGURE 1. *Digital and multiliteracies threshold concepts*

Adapted from the New London Group's (1996) assertion that concept knowledge and technical skills are transferable amongst similar rhetorical contexts (i.e., the underlying thinking in framing a photograph is transferable to framing an argument in an essay), the central premise of the DERT's theoretical mapping of new literacies is that knowledge and skill competencies have multiple intersections, overlaps, and subtle shades of meaning; for this reason, and from these critical competencies, additional subset competencies follow. For teacher education programs, articulation of these subset competencies is an ongoing process, partly because such work is so vast, and partly because doing this work is a means of becoming more aware of how competencies transfer from one rhetorical context to another. Creative and critical thinking depend on these kinds of adaptations and transfers, so while articulation is happening in curriculum development, it should also be happening in all aspects of teaching and teacher education. This encircling of the teacher into the realm

of curriculum thinking, particularly with respect to new literacies, is the power and promise of the DERT threshold concept map.

DERT generated three findings that are particularly relevant to advancing the theory and literature of new literacies in education. Findings suggest that while teachers understand key concepts with respect to digital and multiliteracies theory, they experience three difficulties: (1) applying digital and multiliteracies theory in their day-to-day planning teaching; (2) thinking across literacies domains, (e.g., from speaking to writing to representing); and (3) assessing literacies holistically, where separate skills are embedded into a holistic or applied experience of the learning. In teacher education contexts, these three difficulties are limiting questions regarding what constitutes learning, where literacy success can be demonstrated without reference to the underlying thinking that is critical to that success.

INITIATION OF THE A/R/TOGRAPHIC CASE STUDY

In a single participant case study to test the aforementioned DERT findings, Claire and I began our work together in the last week of October 2014.[2] We wanted to address the difficulties mentioned above, so our project was small in scope, involving only one class of grade 8 students and the two of us as co-planners. This work was a follow-up from a directed studies course Claire had recently completed, and undertaking it was part of her ongoing professional growth. As the teacher, Claire's primary responsibility was to the curriculum, and this important limitation ensured that students' new literacies projects would meet grade 8 English Language Arts curriculum outcomes. My role was to provide support as a co-planner, to document the process, and to take the lead in our research activities.

While having an art practice (blog, music, and poetry writing), Claire describes herself as fairly new to technology and to digital and multiliteracies. She hadn't previously had students using their mobile computing devices (MCDs) in class, whether it was their smartphones, iPods, or iPads. To prepare for our work together and teaching this unit, Claire familiarized herself with using her MCD as a creativity device. She explored digital storytelling apps, music capture and editing apps, video capture and editing apps, and various platforms for collaborative work.

Clarie's work with me also involved learning about a/r/tography, and it was with identities as a/r/tographers that we worked together. A central premise in a/r/tography is that teaching, researching, and art intertwine link a Gordian knot, and that each separate process is really not separate but braided with the others. Having located my own art-making, research, and teaching in a/r/tography (Wiebe, 2008, 2010; Wiebe & Morrison-Robinson, 2013), we drew on this experience in our planning. A/r/tography provided a language for talking about including art and research in teaching. Additionally, as a

portmanteau of art and graphy, a/r/tography provided a concise and under-standable means for Claire to describe to her students the kinds of additional emphases their learning would include. As creators of art, understood in this context as their new literacies projects, students also took up the identity of an a/r/tographer, confirming previous research that a/r/tography can reorient teacher education through role reconceptualization, whereby the contiguous processes of art, research, and teaching are embodied, shared, and distributed across and amongst communities that value research and/or art-making as part of advancing education (Irwin, Beer, Springgay, & Grauer, 2006; Wiebe, Sameshima, Irwin, Leggo, Grauer, & Gouzouasis, 2007). This is a critical point and underscores the value of frameworks and languages that would enhance teachers and teacher educators' professional possibilities within what Richardson (2000) called creative analytical practices.

It was our working hypothesis that if Claire and her students could (1) identify as a/r/tographers (broadly understood); (2) could learn a/r/tographic processes where they could clearly describe their art-making; (3) and could incorporate an artistic way of being and thinking into their learning, then, we felt, the three difficulties of previous DERT research would be addressed. We reasoned that when identifying as a/r/tographers, the focus of student and teacher thinking would be better concentrated on isolating the conceptual thinking underneath literacies, thus helping students transfer one form of thinking to another. In the 21st century, what is needed are better frameworks and language for assessing literacy success, and if the threshold concept map assisted in identifying the underlying thinking involved in new literacies practices, then teacher educa-tion programs could consider role reconceptualization as a legitimate means for addressing literacy challenges of the future.

We were both eager to find out if this new literacies unit would be viable for Claire to repeat the following year, and, hopefully, be one that she could share with her colleagues. A confirmed hypothesis would remove many of the barriers that prevent students from being able using MCDs as part of their official course work. Conversely, a negative result would give us an important critique of teacher role reconceptualization as part of multiliteracies theory. In either case, we moved forward, confident that our a/r/tographic research project would advance practical applications of digital and multiliteracies theory.

LITERATURE REVIEW

With the digital economy growing in Western nations, Brown, Lauder and Ashton's (2008) significant literature review has affirmed the need for new ap-proaches to education. While the majority of research is focusing on reinventing the school, less attention has been given to reconceptionalizing the role of the teacher. The fundamental problem with the conventional understanding of the teacher's role in society is that it is still largely conceived as information

delivery to prepare students to meet curriculum outcomes that can be accessed via provincial-wide or national testing (McKnight, 2006). When knowledge is reduced and commodified in such ways, the creative aspects of teaching are moved to the periphery as non-essential. In contrast to the predominant view, our reconceptualization of the teacher's role highlights her/his artistic creation and agency (Biesta, 2012; Wiebe, 2013).

In addition to how the teacher's role is normally conceived, there is a second barrier to creative lesson design, one that is particular to English language arts (ELA) teachers. In order to prepare students for the tested curriculum, ELA teachers are primarily devoted to discrete, text-based literacy outcomes (Crook & Bennett, 2007), for, as of yet, trustworthy conclusions about how digital literacies are taught and measured holistically have yet to gain sway (Senior, 2010). While effective for increasing students' grades on tests, Dutro, Selland, and Bien's (2013) research has shown that explicit instruction with a narrowed focus is not effective for improving students' creative and critical competences in a broad curricular sense (p. 99). Combined with a lack of research that explores students' literacies' holistically (MacArthur, Graham, & Fitzgerald, 2008), it can be argued that explicit instruction, while valuable, does not help students achieve the necessary literacies for today's digital world. This is a significant limitation given the variety of rhetorical contexts students are likely to encounter (Scardamalia & Bereiter, 1991).

A focus on discrete, single literacy competencies is also limiting to teachers who value creativity in their lives and classrooms. On Prince Edward Island, for example, when new graduates take on positions in the local school boards, they face the competing interests of testing mandates and inquiry-based learning, the latter being a pedagogical approach emphasized in their teacher preparation. With inquiry learning, by engaging students in real life contexts that require effective knowledge acquisition and application, co-learning and collaboration, and creative problem solving, students develop valuable skills for today's knowledge-based economy (Dochy, Mein, Van den Bossche, & Gijbels, 2003). Wolsey and Grisham (2007) argued that connecting students with accessible, convenient, and adaptable tools "conveys a different set of values about what is important and who the architects of learning should be or can be" (p. 31). These "different values" are at a critical nexus between a) literacy and how it is operationalized in knowledge commodification, and b) embodied approaches to learning that integrate competency within the individual. With the kinds of social and economic implications that follow from these contrasting ontologies, it is difficult to overstate the difference.

Outlining the trends of an increasingly globalized knowledge economy, Brown, et al. (2008) explained how the digital variable is creating new approaches to knowledge and the social systems that produce it. They have identified a digital Taylorism that will reduce "autonomy and discretion" and "segment talent in

ways that reserve the permission to think to a small proportion of employees responsible for driving the business forward" (p. 139). Williamson (2013) followed the same argumentative lines, casting skepticism on the education gospel that with new technology and better teaching comes higher skilled and higher waged employees. He noted a disturbing trend in educational reform that he called "CompPsy," a portmanteau of computer science and psychology. ComPsy is the reduction of complex human behaviour to simplified techniques that can be standardized. Similar to the work of articulating and mapping literacies, the phenomenon of ComPsy reduces the complexity of human behaviour. Just as an English language arts teacher might break down literacies so they can be recognized, learned, measured, and then repeated, the objective in ComPsy is to isolate variables so they can be controlled and measured. What follows are calculations from these measurements and a systematizing of the calculations into a recursive function (i.e., an algorithm). The link between new literacies and the digital economy is in the application of these algorithms that strategically organizes and employs human skills in standardized ways to reduce the cost of labour, including highly skilled labour. Brown et al. (2008) wrote,

> The communication technologies that we have today...have created the realistic possibility of developing global standards that reduce technical complexity and diversity. Business processes...can be broken down into their component parts, which include the unbundling of occupational roles so that job tasks can be simplified and sourced in different ways. In other words, an increasing proportion of managerial and professional jobs, that were previously sheltered because they were not tradable, are being redesigned. (p. 138)

As they look toward the future, for teacher education programs, these broad social and economic perspectives on new literacies are crucial, lest they narrowly, and mistakenly, assume that new literacies are the individual skills of the future. New literacies also describe social and economic dynamics of a digital knowledge economy where skilled labour, operationalized as key literacies, is systematized and standardized.

By contrast, what a/r/tography offers for the creative teacher is a recognition of the value of sustaining her/his own creative practices and an invitation that these practices are valuable to pedagogical success (Wiebe, 2013). Valuing creativity a/r/tographically expands the teacher's role holistically without losing the explicit embedded instruction typical of artists who combine their creative and analytical practices (Richardson, 2000; Wiebe, 2013). Not surprisingly, this artful expansion of the teacher's role is consistent with constructivist learning theory which positions teacher and learner as co-architects in the curriculum experience, not just to increase students' ownership of the process, but also because knowledge *is* socially constructed through lived experience and collaboration, both at the micro and macro levels of society (Pegrum, 2009; Senior, 2010). Within this framework, teachers and students as well as students with

one another, co-create knowledge, with learning focused "on the learners' experiences, needs, interests and aspirations" (Senior, 2010, p. 138). This student-centered approach was the foundation of the research project, which challenged students to create three persuasive pieces. Students followed typical inquiry protocols, with the exception that they used the threshold concept map to guide their processes and to think about their own thinking. Each of the threshold concepts of perspective, data, innovation, genre, audience, and agency were emphasized as students incorporated and applied information, communicated and collaborated with each other, and encouraged in one another their autonomy, flexibility and innovative expression (Pegrum, 2009; Struyven, Dochy, Janssens, & Gielen, 2006).

METHODOLOGY AND METHODS

A/r/tography is research that is undertaken by practitioners (e.g., teachers) for the purpose of developing their own artistic practices (Irwin & Springgay, 2008). With the intention of developing our art, research, and teaching, the Skype conversations Claire and I had together became a way of focusing on the "behind the scenes" work of teaching creativity, of trying something new, uncomfortable, and different from our colleagues. Our conversations were a chance to consider the time-consuming, life-altering, and deeply challenging personal nature of such curriculum work. Important to an artist's way of thinking and being are the ways curriculum work lives in the relational, messy world beyond the simple, transactional process of knowledge delivery and acquisition.

As a/r/tographers working together, it was our connections (Irwin & O'Donaghue, 2012) and complicated conversation (Pinar, 2004) through six Skype conversations that generated our findings. Because Claire was following an inquiry-based approach in her new literacies unit, by working collaboratively in our planning sessions, we were able to find and document solutions to everyday issues that arose during implementation. As a follow-up to her directed study, this hands-on, in situ teacher education was able to provide reflection time on the varia that a teacher encounters in the-day-to-day of pedagogical decision making. Together, our conversation provided both Claire and me an opportunity to develop professionally as artists, researchers, and teachers.

As can be expected in dialogically-based methods, complexity and depth was collaboratively generated. During our conversations, we questioned and provoked one another, we took notes on our impressions, our memories, our plans, and our discoveries. As a key part of our project was to gather insight on the educational possibilities embedded within becoming a/r/tographers (Irwin et al., 2006), we did, in our first conversation, discuss Norris' (2011) curriculum heuristic for arts-based research, where he has interrelated pedagogy, poiesis, politics, and public positioning. Norris' article was chosen because of how his framework opens possibilities for teacher educators to reflect on the mutitple

contexts of their being creative, and how that might affect their professional growth, not simply as artists but as teachers and public intellectuals. Our discussion of Norris' framework was not structured as we wanted to proceed naturally, feeling free to develop our relationship as a/r/tographers, and in so doing, contribute to the conversation anecdotes, interpretations, questions, memories of past teaching moments, and comments about our own lives; we wove all of these together, bouncing ideas back and forth in juxtaposition, creating that open third space of possibility.

Proceeding in this way enabled us to articulate some of the less visible challenges of shifting our thinking through an a/r/tographic lens. The convenience of Skype conversation allowed us to meet multiple times during the unit, often at the end of a teaching day. This immediacy of our sharing was an advantage in that Claire could draw on her lived experience, and yet, even after the passing of a few hours, and sometimes a few days, our dialogical process enabled deeper reflection and re-interpretation. Having both immediacy and distance, it was through the act of conversation that the complex layers and challenges of a/r/tography became part of our co-construction of findings.

Some of what we shared in our conversations could not be included in a public text for ethical or professional reasons. Because 21st century teacher education is situated within the larger audit culture of K-12 and university education, Claire and I felt that certain critiques of the system would need to go unvoiced. Educational institutions do all they can to market quality education, and this means keeping a tight rein on what teachers can share. By not including these in the public text, we simply hope that silence will also speak.

The last part of our methods that ought to be noted is how we chose to write up this article. While we had hoped to engage in the profound challenge of narrating this complex story as two voices, we encountered the difficulty implicit in our roles. In the K-12 school system, Claire is not afforded the same time, status, or reward for conducting research. Given that she had already committed so much time to the Skype conversations, her role in the writing began after a draft of the paper had been written. She reviewed the entirety of this text so that it would reflect her sense of our conversataions.

FINDINGS AND DISCUSSION

From their predominance in our six conversations, four important findings emerged. These also passed our applicability test in that each of them was significant in Claire's decision-making process of whether to teach the unit again. For these reasons, we feel that it is fair to represent these themes as our findings.

Finding one: Students need to be taught how to use MCDs as productivity devices

Student enthusiasm, heightened by the presence of technology and the opportunity to create multiliteracies projects, was linked to good pedagogy but limited by the school context. Undoubtedly, students were excited by the opportunity to use MCDs as part of their learning. Part of this enthusiasm was enhanced by the presence of additional technology in their classroom. Claire made her personal laptop available; she created better access to the desktop computer in the classroom; and the University of Prince Edward Island provided six additional laptops. Claire noted that this would be the first time many of her middle-school-aged students would be using MCDs in the classroom to perform official school work. While school policies, informally, were becoming less restrictive, the general school policy and social practice was that students were not allowed to have MCDs in class. This exclusion from the classroom contributes to the cultural ethos that MCDs are not productivity devices; thus, part of Claire's pedagogy included demonstrations of video creation apps, moving video data from an MCD to a laptop, storing files in the cloud, and using collaborative editing software. While young people are often positioned as technologically savvy, it was our experience that the MCD became a foreign and unfamiliar tool when it needed to be used for creative or critical use.

One of Claire's most important strategies was to solve the technical issues before the new literacies unit began. Each group needed a cloud account, an app for editing video, and a system for working together — and this included transferring files from their MCDs to the laptop that they would be sharing. An important choice early in the planning was that video editing on an MCD would be inferior to video editing on a laptop or desktop. Factors included screen size, processing power, and ease of collaboration. That said, MCDs were critical. They provided not just the affordability and familiarity of "bring[ing] your own device" (BYOD), but they gave students the freedom to collect video data anywhere and anytime. Students understood that as part of their research unit, they were doing more than filming, and that their collection of video data was equivalent to doing a Google search with key words or going to the library to research a topic, two of the most common ways that students had been taught to do research in previous grades.

When considering different foci for teacher education in the 21ˢᵗ century, Claire and I discussed school limitations for her specifically, but also for schools generally. One significant school limitation, and not particular to Claire's school, is that after completion of the unit, the learning focus quickly moves on to whatever else is planned. Sustained artistic attention is difficult to achieve in a school setting. Later in the year, students had an opportunity to enter their work in a competition specific for young people. The low response suggested that, in this case, students did not take on the identity of artists or a/r/tographers beyond the scope of the new literacies unit. Thinking about

how teacher education might change, in our conversations, we wondered if the identity outcomes might have been different if teacher education programs could enculturate alternative ontologies with respect to recognition, agency, authentic learning, and portfolio style assessment. Schoolwork is largely un-recognized beyond the feedback a teacher gives in formative assessment or beyond the grade awarded as part of summative assessment. Student agency is also limited, constrained to the acquisition of competencies, with the nor-mative assumption being that students can apply skills toward employment contexts later in life. Missing is the inspiration and aspiration of becoming an artist, of being a creative person, as seeing oneself acting and participat-ing in creative and critical ways beyond the scope of the classroom. What if, for example, instead of school-wide testing, assessment focused on students developing a portfolio of work? While teacher education programs have little power in changing K-12 policies, they can consider more deeply the ontologies underneath normalized school practices.

Finding two: Transmediation is the promise and power of multiliteracies' theory

Following from the threshold concept map, linking analysis and creativity was an effective pedagogical strategy. Claire's classroom experience was another con-firmation of the practical value of what Richardson (2000) has called creative analytical practices. To begin their new literacies unit students were tasked with gathering their favourite, short YouTube videos. Most chose commercials and the central questions before them were to ascertain what made these videos popular and to identify what artistic techniques were employed. At this point, students had minimal photography or videography experience. Despite this, after students gathered their data, they were able to successfully sort it, derive principles of success, critique individual samples according to these principles, and then create their own content in reference to these principles. In refer-ence to the threshold concept map (see Figure 1), it was at the intersection of genre / data / innovation that students were successfully advancing their research competencies. Combined with content knowledge available on the Internet, students were able to discover a variety of sophisticated shot types (such as over-the-shoulder) and utilize them in their own filmmaking.

In our conversations, as we talked about the implications for teacher education, Claire and I felt that these discoveries were concrete and material examples of new ways to represent critical thinking regardless of the literacy focus, and it is a significant reason for why Claire will repeat this unit in the future. Already having a basic facility with reading, middle and secondary students face the challenge of becoming critical readers. Text-only environments are comparatively abstract; for example, concepts such as point of view, framing, bias, and so forth, require students to imagine what is not in the text or to think beyond the text. However, when the text becomes visible through the materiality of film, these concepts are concrete and physical. A third person

point of view, where the narrator looks over the shoulder of a character, is a very physical representation when one is holding an MCD behind the shoulders of another person. Similarly, when students learn to exclude undesirable information from the frame, to use either a wider or narrower angle, they learn that what is deliberately excluded from the text is a choice based on the overall strategy or intention of the director. This transmediation from one genre to the next, or from one rhetorical context to the next, is the promise and power of multiliteracies' theory and ought to be a mainstay in literacies across the curriculum courses in teacher education programs.

Finding two also resonated with finding one. As students shared data, they hardly noticed their own complex and rich conversations. Claire observed students prompting one another with questions such as: Did you see this one? How did they do that? Where would the cameraman be standing? What's that transition? In Claire's words, "students had bought into the unit and hardly noticed that they were doing the hard and serious work of research."

Finding three: Metaphor and story are pedagogically rich concepts for multiliteracies theory

Metaphor and story are two concepts that have a high degree of transferability. In English language arts courses the concept of metaphor needs to move beyond the poetry unit, and to help create cross-curricular applications of metaphor, I have developed a series of digital and multiliteracies lessons that involve working with haiku. Claire had her students do one of my haiku activities, where, initiated into an authentic literary problem, her students learned that the Western definition of haiku (5-7-5) was formulaic, missing a key tension between the speaker and what the speaker was observing in the landscape. John McManus' (2013) haiku is particularly illustrative of the key tension in contemporary haiku: "swans on the lake / my daughter fidgets / with her tutu," and this haiku, along with four similar ones, provided a reference point for students to create their own definitions of how haiku worked. After some class discussion, with their MCDs, students collected visual landscape data (line one) and visual portrait data (line two). Data analysis came alive when students had to write a third line that brought a landscape photo and a portrait photo into metaphoric relationship. As a mini activity taking only a few classes, students were initiated into the process of selecting, arranging, patterning, deriving, and creating. Writing a high quality third line was a creative act but it was an act dependent on a great deal of analysis and understanding of what merged in the tensional space between landscape and portrait, objective and subjective, physical and emotional, symbolic and interpretive. In pursuing a pedagogical language to convey the power of the work that students were doing, we foregrounded metaphor, not only because it was a word students had heard before, but because it carried enough flexibility to be useful across genres. Students understood that whether working in poetry, prose, or film that metaphor was a means to explain, clarify, and extend an idea.

Similarly, story is another concept that has a high degree of transferability. In creating their new literacies projects, students asked the following kinds of questions: what is our idea? What is the premise? Who are the characters? What are they feeling? These kinds of questions emerged particularly in the editing phase of the project when students were blending music, narration (if there was a narrative track), and the photographic and/or videographic shots. Oftentimes, digital literacy is defined by text, sound, image, and movement, but it became clear in our work with Claire's students that it is the concept of story that undergirds each of these discrete units. In their new literacies' projects, students understood that the story of the music needed to work with the story of the message; that the story of the images (whether moving or still, whether long or short) also needed to work with the music and the message. While separate story layers, each track was an integral part of the entire story.

In our conversations, Claire and I felt that the new literacies unit conveyed the complexity of metaphor and story in ways that make these concepts of import to teacher education courses, particularly English language arts methods. It is not without some irony that these concepts still persist in a time when there is much focus on 21st century learning. A focus on metaphor and story questions the education gospel that students need more technical skills in order to flourish in a knowledge economy. From our perspective, the simplistic equation of new device equals new learning does not hold water.

Finding four: Multigenre instructional design increases motivation to revise

Student openness to revision is a key habit of mind developed in multiliteracies units. At the end of the new literacies unit, Claire worked with her students on writing paragraphs. Perhaps unfairly, especially given how communication is changing, an important marker of success for this unit was whether students could transfer what they had learned in their new literacy projects to text-only rhetorical contexts. In line with the recent district focus on writing, Claire emphasized that the newly introduced district test now required her middle school students to produce a single, well-developed paragraph with few errors in conventions. In addition to teacher-led instruction (two classes), students were given three classes to work independently on their summative paragraphs in the computer lab. Success criteria were the typical six traits of writing, and, given the anticipated competencies that students would learn / practice in their new literacies projects, students were given a rubric that emphasized ideas, organization, and word choice.

There was no control group as part of this study design, so when Claire assessed the student paragraphs, she was comparing the results to previous years of students. In our Skype conversation, Claire felt that as a class, her students did make the kind of text-only gains that she had hoped for. Students used metaphors to develop ideas, they experimented more with colorful word choice, and they enhanced their arguments with persuasive tones of voice. Importantly,

Claire emphasized that this unit created the intellectual room for her more motivated students to experiment and grow through self-direction.

After the text-only assessment, Claire gave her students the opportunity to re-vision their text piece into another form, whether it be a short haiku, a poem, or a rant. Having experienced student resistance to re-vision in her previous years of teaching, especially to any major or structural changes (such as changing the point of view or changing the way an argument is framed), Claire was anticipating that this group of students would also resist this potential "extra" work. Instead, students embraced the opportunity to be creative, and in a discussion circle where they had to select and briefly share what genre most represented their message, Claire noted that students demonstrated a deep understanding of the value of multiple text forms, and that when creating a new form, there was an opportunity to re-vision a piece.

CONCLUSION

Different from previous research that I've been involved in where findings were disseminated to the Department of Education and then on to the teachers through curriculum changes or best practices, in this small-scale study, Claire was the one who determined success. Another advantage of the smaller scale was that we could pay closer attention to Claire's pedagogical strategies that were in situ and context dependent. For example, when students were directed to represent their ideas in ways beyond their text-only familiarity, they were challenged and needed pedagogical scaffolding. The creative possibilities in how text, image, sound, and movement might interrelate are immense, and as regular consumers of multimodal content, students had awareness of what is possible but lacked the skills, knowledge, habits of mind, and experiences to create quality content. Their lack was necessary for learning. In Claire's classroom, before students began their projects, there were weeks of creative work to provide the scaffolding for success. Students were given instruction and hands-on experience with the following: productivity apps for content creation, systems and processes for transferring files from smartphones and tablets to laptops and desktops, metaphor and story as literary techniques to generate content, and the threshold concepts as a way for them to experiment with the key variables that would affect their message — all of this was part of the in situ pedagogical instruction Claire provided. So, for instance, in the haiku work, where students had to generate a last line, most of the students initially tried to explain something already evident in the photographs. But when text and images are used together in a rhetorical context, there needs to be a tension between them. So Claire asked her students, "What else could we do with photographs besides describe them?" The haiku assignment, because it was short and immediately focused students on a challenging task, acted as scaffolding and practice for students' later creative work.

Multiliteracies theory is complex, especially when working with film, as it combines so many elements. Not only are there multiple combinations of elements, but regardless of the genre produced, the resulting production is always located in a particular place in a particular time. Contextual variables are always there even when it appears they are not. Thus, when working in concert with sound and narrative, an image, whether moving or still, records something real, — and then story comes alive — that is when someone or something comes into an existence that compels a response from the audience. Students could not come to this complex understanding independently. Claire drew on her own experience as a developing a/r/tographer to guide them. In her informal conversations with students, she had them shift perspectives, trade data, change their stance, imagine new narrators or characters. She told them to not just use the lens to capture something but to find the hidden or unknown. She challenged them to look inward to their own motivations and feelings that drove actions. And she had them experiment with multiple genres and create new hybrid genres (some students created video haiku using the Vine social media platform while others created Rick-Mercer-styled rants that had the ethos of a music video). Once students understood that any of the elements of the threshold concepts could be manipulated as variables as a way for them to create new content, they had a way to be innovative without being formulaic. Just as important, once students understood the elements of metaphor and story, they were able to create films full of questions, suppositions, and wonder. As a/r/tographers (and we are including students in this naming), if we are creating art to understand life and not just to depict it, then we must imagine our way into the material — whether working with the individual medium of text, image, sound, or movement, or whether working with some combination of all of them, it is our imagination that is crucial to the endeavor.

This call to an a/r/tographic imagination is significant to the study. In the short term, reinventing the teacher's role as an a/r/tographer, as we have seen with Claire, better enables teachers to introduce, connect, and embed unconnected skills in a holistic learning environment. In the long term, our proposal to reconceptualize the teacher's role presents teacher education programs with an effective means to imagine pedagogy as imbued with both art and research. With a/r/tography, literacies are learned holistically, and holistic instruction depends on teachers' understanding the theory of how individual skills transfer in multiple domains, the very essence of multiliteracies theory.

NOTES

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2. A companion article based on the same data examines students' use of smartphones to create cellphilms (see Wiebe & Caseley Smith, 2016).

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SEAN WIEBE is an Associate Professor of Education at the University of Prince Edward Island. He has been the principal investigator on four Canadian Social Sciences and Humanities Research Council funded projects exploring the intersections of creativity, the creative economy, language and literacies, and arts informed inquiries. swiebe@upei.ca

CLAIRE CASELEY SMITH is a music and English language arts teacher at Somerset Elementary School in Kinkora, P.E.I. She recently completed the Master's of Education program at the University of Prince Edward Island where she focused on literacy and inclusion. caseleysmith@gmail.com

SEAN WIEBE est professeur agrégé en éducation à l'Université de l'Île-du-Prince-Edouard. Il a été chercheur principal dans le cadre de quatre projets de recherche subventionnés par le Conseil de recherches en sciences humaines du Canada, projets explorant les croisements de la créativité, de l'économie créative, de la langue et littératies et les recherches basées sur l'art. swiebe@upei.ca

CLAIRE CASELEY SMITH est enseignante de musique et d'anglais au Somerset Elementary School, situé dans la ville de Kinkora, à l'Île-du-Prince-Edouard. Elle a récemment complété le programme de maitrise en éducation de l'Université de l'Île-du-Prince-Edouard, se concentrant sur la littératie et l'inclusion. caseleysmith@gmail.com