

## **Art as a Critical Response to Social Issues**

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In 2018 in the U.S., Cambridge Analytica (<https://cambridgeanalytica.org/>) came under investigation for how they used Facebook to control through image, written language, and social media what people viewed (e.g., political ads and video) and how this influenced the results of the 2016 U.S. presidential election. Before and on the day of election, Facebook was saturated with images, ads, and written texts broadcasted to particular spaces and directed at particular audiences in order to have these audiences vote in particular ways. With concern regarding how image, social media, and technology worked in this example, Facebook and Cambridge Analytica are now under scrutiny for such influence. We use this example to show the relationship of power between and among image, language, and technology in professionally/publicly-generated texts to influence the actions of viewers.

The ever-increasing access to digital devices and the Internet has led to a growing concern about the quality of the verbal, visual, and video information that is shared online. In 2018, the Pew Research Center found that in the U.S. more than 88% of adults regularly use social media to communicate, post, and view postings ([www.pewcenter.org](http://www.pewcenter.org)). Over 24% of teenagers are online “almost constantly,” often through smartphones, with Facebook the most popular social media site. Internationally, Kemp (2018) wrote that over four billion people—more than half of the world’s population—use the Internet as a result of the greater affordability of mobile devices and data plans. Over two-thirds of the world’s population now own a mobile phone (Kemp, 2018).

For the past 15 years, across our work, we have positioned art and technology as significant communicative modes that bring to the surface a text maker’s ideologies and how the viewer is implicated in these texts to act and believe in particular ways (Albers, Frederick, & Cowan, 2009; Albers, Harste, & Vasquez, 2011; Albers, Vasquez, & Harste, 2011, 2017; Harste,

2003; Janks, 2014a, b; Vasquez, 2004; Vasquez, Albers, & Harste, 2013). In visual and/or multimodal texts, viewers are influenced by the subject matter and the meanings associated with it, the composition or structural arrangement of objects (e.g. vectors, placement of objects, etc.), the selections afforded by the medium and materials used, as well as how technology operates as a conduit to share these meanings. In this paper, we discuss how, in a two-week institute, we engaged teachers in making art that addressed the social issues they saw operating in their lives using a critical lens.

### **Theoretical Framework and Related Literature**

Theoretically, we locate this work in Ingold's (2014) concept of making, Carpentier and Dahlgren's (2011) concepts around participation, and Janks' (2014) integrated model of critical literacy. Ingold suggested that inquiry lies at the heart of making: "thinking is making and making is thinking" (p. 6). It is always in relation to the materials with which we work, and "is a process of correspondence" (p. 33). That is, every work that is made "surrenders to the material" (p. 47), and is a "prising and opening and following where it leads" (p. 7). Ingold continued, "We are accustomed to thinking of making as a project. This is to start with an idea in mind of what we want to achieve and with a supply of raw material needed to achieve it. Also, making is to finish at the moment when the material has taken on the intended form" (Ingold, p. 20). For Ingold, making is always a state of discovery in a dynamic relationship between and among the maker, materials, and process. Art is not made by the form that exists in the mind of the artist but by the artist's engagement with materials. The materials speak to the artist as much as the artist uses the materials to speak. The maker is "caught between the anticipatory reach of imaginative foresight and the tensile, frictional drag of material abrasion" (p. 71), or what we call the

affordances of the materials, makers' knowledge of the materials, and the meanings they wish to make.

Critical literacy is an additional theoretical lens that we used “to question things that you took for granted before...notice things that you used to ignore...” (Janks, 2014b, p. 1). In *Doing Critical Literacy*, Janks (2014) presented classroom strategies focused on images to show how they work to re/produce discourses/ideologies. In her approach to critical literacy pedagogy, Janks (2014a, p. 350) identifies five key points. First, learners must connect their own lives with something that is going on in the world in which the world can be as small as a classroom or as large as an international setting. Second, critical literacy involves inquiry in which educators must consider what students will need to know and where they can find the information. Third, the educator and students explore together how relations of power are instantiated in texts and practices and, through an examination of design choices, understand the relationship between texts/practices and people's behavior. Fourth, critical literacy examines those who benefit from or are disadvantaged by the social effects of events, objects, people and how they are represented. Fifth, critical literacy imagines the many possibilities for making a positive difference. Studying making through Janks' integrated model of critical literacy creates a space for readers to interrogate messages that work to position viewers in particular ways as consumers both of the product itself and the ideologies that underpin them.

The extent to which makers become invested in making is in large part due to how and why they participate in the making. Participation, Carpentier and Dahlgren (2011) argued, is not a “fixed notion” but is necessarily embedded in “our political realities” (p. 9). Said another way, to what extent do people actually get to participate in decisions about their making and their learning and what political decisions affect one's learning? Carpentier (2011) identified several

characteristics of participation: 1) power which includes or excludes people in the implicit and explicit decision-making processes; 2) power situated in the particular processes and localities, where particular relations of power are implicated, and 3) power struggles within the social order more broadly which affect what is “lived and practiced,” and by whom. (p. 25). Said another way, the practices around making are structured through our understanding of participation vis-à-vis materials, process, and engagement, and the extent to which we think, name and communicate the participatory process (Carpentier, 2011) in making.

While our work speaks directly to making, participation, and critical literacy, a number of other studies have documented the importance of art, language, and technology in which children through adults regularly use multiple materials for a range of purposes. Pepler and Wohlwend (2018) synthesized 50 peer-reviewed articles that addressed the arts, creativity, and new technologies to understand how new technologies can be leveraged for artistic expressions. That is, studies in this synthesis considered the tools, materials, techniques and concepts in which contemporary artists considered traditional design in such fields as fashion design, media design, game design, among many other fields. Martin (2015) identified critical elements essential to a maker mindset and the maker community including, craft, art and design, and cautioned against over-simplifying making by focusing on the tools for making, in contrast to Ingold. Vasquez and Felderman (2015) studied young children’s use of technology and design to produce a podcasting show focused on fairness and injustice with the purpose to contribute to change in different spaces. The children wanted their podcasts to be accessible to a range of different audiences from young children to adults. Set in Felderman’s grade two classroom, twenty culturally and linguistically diverse children were taught how to design and develop podcasts “to communicate their ideas, questions, and understandings about the world around them” (p. 147).

They researched different topics associated with the focus, and revised scripts until they thought they were ready for broadcasting. Albeit brief, our own work and the work of others have recognized the significance of working with the arts and technology to understand what they have to offer educators in terms of a deeper understanding of literacy and learning.

### **2017 Summer Institute**

For the past 15 years, we have studied and written about the significance of art in literacy curriculum to support creative, metaphorical, and abductive thinking, and the reading and production of texts in order to interrupt existing relations of power and to engage in transformative redesign. Part of this work has involved the work we have done with teachers in Canada during two-week all-day summer institutes. The institutes are always grounded in critical literacy and always include the arts (visual/drama), language, and technology.

During the 2017 summer institute, we focused on critical making with 80 teachers and administrators. We define critical making as making with tools, techniques, and materials in order to speak to and against issues of social importance. For us, making is not about the materials or the maker, but the interaction and transaction between the two, with meanings that makers bring to the materials and how that meaning shifts with each movement of the paint brush, the pressing of the clay, the building of objects and/or the cutting of paper. Projects start with a point--whether a physical mark on a canvas, the tearing of clay, or the dismantling of a device—or with a thought, a plan, a way of moving with, against, and through the materials. To this end, we designed and conducted four small-group workshops each focused on making critical art with a different medium, including watercolor, clay, and discarded technology. There were three sessions per workshop and each session lasted approximately two hours. There were, in addition, plenary sessions in which teachers made something.

The excited tension between and among teachers was palpable on the first day of the summer institute. We heard many teachers remark, “I’m not an artist,” “I’m nervous about doing art,” “I don’t have talent as an artist.” To break the ice and encourage making at the start, in the large group, we invited them to make simple projects like bunraku puppets (simple puppets made from brown wrapping paper), and puppets made from found objects and poems to go with them, inspired by Ashley Bryan’s (2014) *Puppets* (Figure 1). They also made kimono books (origami accordion books), and origami chicken hats. These ice breaker activities created a space for beginning to demystify the making experience. We were then set to work with them on more complex techniques and processes.



Figure 1. Ice breaking making experiences

As workshop leaders, we contextualized making in relation to concepts in practice and scholarship.

Teachers then participated in engagements that situated making associated within these concepts. Teachers produced approximately 15 artifacts during the two-week period. As critical social semioticians, we hoped that the teachers would come to understand the affordances of different materials to represent their chosen social issue and how elements of art (e.g., color, line, form, shape, space, texture) look different, and produce different effects in their own projects as well as those of others.

In one set of workshops, teachers studied clay and created a ceramic bust. In another set, teachers worked with paper, foil, and chalk pastels to make posters, foiled images, and

personalized books using stick figure construction paper inspired by Ryan Kerr's (2014) book, *On Growin' Up*. A third series of workshops engaged teachers in inquiry using paint and gesso, and the fourth invited teachers to use discarded technology to create a satirical piece related to the issue of fake news. The workshops were organized around artist Jasper Johns' (Hollevoet, 2002, n.p.) injunction to:

Do something, then do something to that something. Then do something to that, and soon you will have something.

The workshop on discarded technology provides an example of such a sequence across the three sessions. Session 1 was used to discuss the political implications of fake news, to explain the making activity that Vivian had designed and to invite students to think about the normative use of the obsolete technology they intended to work with. In the next session, (do something), the teachers dismantled their piece of technology reducing it to its component parts. In the third session they reconstructed the bits and pieces (do something to the something) to make a statement about the original purpose of the technology in relation to fake news. During sessions 2 and 3, students kept a record of their process – the intellectual, emotional and creative journey (do something else), and created a digital presentation of their process (do something else to the something else).

An example of this workshop is represented in Figure 2. One group of students dismantled a hair dryer and redesigned it as Trump's megaphone used to blow



Figure 2. Example project made in discarded technology workshop



hot air. Driven by a USB car charger, the hot air is blown towards a world made of papier-mâché. The teachers positioned the world on top of flames to suggest that Trump's hot air/fake news is carried across the globe, inflaming both people who agree and disagree with him. This engagement provided an opening for teachers to speak directly to a social issue they saw affecting their own lives as Canadians. The hair dryer was used both literally and metaphorically—the hair dryer literally blows hot air and the current US president blows metaphorical hot air: empty, exaggerated talk and bragging, creating fake news.

On the last day of the institute, teachers created an art gallery (Figure 3), organizing and displaying all of their makings. For approximately 90 minutes, teachers walked through the gallery, and talked with each other about their projects and the critical messages on display. The purpose of the gallery was for teachers to



Figure 3. Art gallery on last day of the Institute

see how social issues were represented through the use of different materials, to hear their colleagues speak about the process and techniques they used to make their projects, to reflect on how the projects made visible their awareness, understanding, critical reading and response to social issues, and to imagine how they might use their experiences to inform their teaching practice.

### **Methodology**

We studied everything that the teachers made, individually or in small groups, examined their written reflections and considered what they said during workshops and plenary sessions.

Students expressed their thoughts and feelings while making in conversation and in written reflections before exiting each day. In the technology workshop, teachers kept a detailed record of their making process. These responses together with their final products provided the data for our analysis.

We studied the visual artifacts using critical visual discourse analysis (CVDA) (Albers, Vasquez, & Harste), a method that draws upon visual discourse analysis (Albers, 2007) and critical literacy to understand the positioning effects of the semiotic choices made – art elements (e.g., color, line, perspective), structures (placement/prominence of objects, organization of objects). We were also interested to find the discourses (e.g., fake news, religion, identity) that their making pieces manifested. We analyzed the messages conveyed (both stated and inferred), how viewers were positioned to read and respond, the different perspectives which aspects of identity emerged. In essence, we attempted to understand the mazes of representation that emerged in teachers' projects, and to understand the extent to which materials associated with art and technology contributed to the identities that they, as visual textmakers, chose take on. We suggest that this work brings to the fore the significance of examining the nexus between and among art, technology, and making practices.

### **Findings**

We organize the next section around three observations that we made through our study of making in this institute: 1) Making led to new discoveries about materials, techniques, process, and selves; 2) Making inspired abductive thinking; and 3) Identity, agency, and critical perspectives emerged in teachers' making.

#### **Making Led to New Discoveries about Materials, Techniques, Process, and Selves**

Teachers were positioned to understand making as a process. By doing something, doing something to that something and doing something to that something, teachers learned about themselves, the materials and the techniques of a particular medium. In two of the workshops, teachers were unfamiliar with the materials they were asked to use to design and make their projects: clay, paint, gesso. In the technology workshop, while teachers were familiar with the devices they brought, they were unfamiliar with how to redesign these devices. In the fourth workshop, teachers worked with more familiar materials and techniques: paper, cutting, pasting, foil, and oil pastels. Across all workshops, teachers expressed that making provided spaces—both literally and figuratively—for new discoveries about materials, techniques, and process.

Materials. Initially, in session one in three workshops—clay, paint, and technology — teachers experienced “frustration,” “intrigue,” and fear around working with these materials. In contrast, in the fourth paper-based workshop, teachers felt “calm,” “relaxed,” and “able to jump in” as they had familiarity with these materials. However, by the third session in all workshops, teachers had worked with the materials, had become more familiar with how to make the medium speak for them, and had engaged with the materials as ways to “challenge” themselves. For Terry, staring at a 5 pound block of clay was “intimidating.” Yet, when she learned the techniques to sculpt, she noted, “My sculpture ended up being my favourite art piece. As with most cases, the most challenging ends up being the most rewarding.” Mary Lou stated, “A discovery I made was how versatile clay can be...I did something I never thought possible.” Nina remarked, “The [clay] workshop was the biggest learning curve for me because I was so unfamiliar with the materials and techniques...I kept going. In the end it really turned out better than I thought!” Julia observed about her making:

I can produce artist work that actually surprised me with how it turned out. I found that initially when I was asked to find something in the black gesso that I couldn't see much, but by persevering, faces and bodies began to emerge. By starting with one figure that led to another face that connected with the initial figure ultimately led to one awesome large face which tied the piece together. (Figure 4)

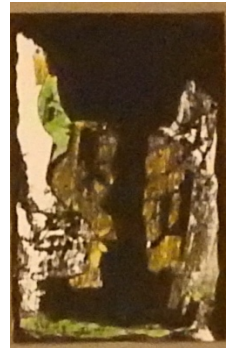


Figure 4.  
Julia's faces  
found in her  
painting

Learning about materials provided new insights into the materials themselves, how versatile they are, and themselves as artists. They saw their art works as “awesome,” “their favourite,” and “better than I thought!” They also learned about the tools artists use in the various mediums, which enabled them to see, for example, faces, as an artist would.

Techniques. In working with materials associated with art and redesign, there are techniques that teachers learned and grew accustomed to across each workshop series. This learning led to different discoveries about themselves and their making. Steven wrote, “I learned that I am really good with my hands and was able to produce an excellent [sculpture].” Susan discovered that her mantra is now to “just go for it... sometimes people are afraid to just take risks and try something with a new art medium [paint].” While Glenda reflected:

At a time, I was not listening to [Peggy's] specific instructions because my hands were just working non-stop and that it seemed that I got lost in the clay work...My introduction to sculpture work hooked me.

While the mediums of paint, clay and technology were initially intimidating to teachers, they learned techniques that demystified the process of making using these materials. As workshop leaders, we demonstrated techniques that created opportunities for them to “go for it” and

teachers like Larina learned that she could be successful in the arts, noting, “It force[d] me to dig deep and think creatively in new ways.”

In the paper-based workshop teachers used materials, paper, oil pastels, scissors and foil, and techniques (drawing, outlining in foil, cutting-pasting) that were familiar to them. We found that familiarity enabled teachers to feel at home with making, and to proceed directly to making that connected personally with their lives and/or how they thought life should be. Cutting and pasting stick figures to make personal

books representing an issue in their own lives (see Figure 5) was a favorite making project. Kathryn’s book reflected a time when her heart was broken; she felt like her world had fallen apart. She picked up and put together the pieces of her life to become strong again. Using oil pastels to



Figure 5. Kathryn’s personal book made in paper-based workshop

create a motivational poster also enabled teachers to engage in making without the struggle of learning new techniques. Tracey wrote:

The [paper-based] workshop allowed me to reflect and present my thoughts in creative ways. Little did I know that this was a form of making. I understood ‘art’ to be a picture or sculpture, but [this workshop] opened my eyes to art being music, doodling, baking, cooking, architecture.

Morgan precisely captured the importance of familiarity, “I have felt able to jump in....This art feels like something I can do.” For Anete, the stick figure book “lent itself very well to those students who are less artistically inclined.”

Process. Bayles and Orland (1993) wrote that often makers of art understand and come to know the value of the process and, yet, tension arises when the maker becomes a viewer, and takes the stance of a critic in which the maker's project is compared to work made by professional artists. It is this tension that makes visible the nexus among making, process and product. Sarita made this tension tangible:

Initially I found myself to become concerned about the end result—the product—and the fact we had to produce 3 pieces left me feeling overwhelmed....[They] felt boring....Only when we were required to look at the final pieces & recreate them, I began to engage myself more in the process and my pieces of art became personal. I really enjoyed finding shapes and projecting a social justice issue. It became more than just 'doing art.'

As part of the process, "taking apart and re-appropriating" a piece of technology was "daunting at first" for Eloisa. "I didn't know where to begin at all. I must say that the process was very enlightening. I especially enjoyed taking apart the item and trying to figure what could be done with it." After engaging in the process of making using unfamiliar materials, teachers, like Genevieve, often were surprised at how their project turned out:

I was pleasantly surprised when my sculpture began to even vaguely resemble a human form. The amount of details and precision required to get the desired look—however imperfect—was sometimes frustrating. However, the [ceramic] bust came together, piece by piece, I became satisfied—especially for a first-time attempt at sculpting.

Teachers found that they were more drawn to some materials more than others in the process of making. For a number of teachers, like Rose Mary, making sculptures was "very satisfying working with my hands. I enjoyed the feeling of the clay and learning various

techniques. Sculpting is very physical. You're using your whole body to create it, very active process." Joseph wrote, "I've noticed that making objects through sculpting or building is much more enjoyable for me. The painting/drawing activities give me much more anxiety." Terese found that making with clay "was trusting the process, my hands, the clay. I was at peace with the clay and felt very calm...trusting the experience and creating something tangible." When Victoria participated in the discarded technology workshop, the process of "taking apart" was when "ideas started flowing. The initial ideas I had shifted and morphed as each piece was being deconstructed and by having conversations with colleagues."

Ingold (2014) wrote that artists have to have a sense of how their materials will become. An artist "sees the state of things but senses where they are going" (p. 70). We found a relationship between making and "where they are going." Across three of the workshops, clay, wet medium and technology, before teachers could define their social issue, they had to play with the language of the medium (for example, how clay moved and textures created, blending colors, layout for technology devices) and learn techniques through which they could make critical statements. Thus, in workshops one and into workshop two, teachers often focused on process first—using techniques to manipulate the medium—in order to have the capacity to speak critically through the medium. However, in the paper-based workshop, teachers knew the process of cutting, pasting, coloring with oil pastels, etc. Thus, they could focus immediately on the critical messages they wished to convey. In the technology workshop, teachers needed to think through the power-effects of the piece of technology they had taken apart, and reconstruct it in such a way that it spoke back to these effects while simultaneously making a critical statement about fake news. These two entry points helped them to see possibilities for critical redesign in the bits and pieces of the deconstructed technology.

For decades, Jerry Harste (2014) has argued that “teachers can’t do for children what they have not done for themselves first” (p. 9). While teachers were introduced to unfamiliar materials, they were pleasantly surprised at how well they were able to work with different techniques and how the process of making created a space for them to explore their own lives as well as make critical statements about social issues. While workshop leaders offered demonstrations, teachers were afforded opportunities to be included in all aspects of the process, and to focus on their own interest in social issues to actively engage in lived practices (Carpentier, 2011, p.25). We suggest that this lived participation in making provided opportunities for teachers to engage in abductive thinking, opportunities that are few and far between in a discipline-based school curriculum (Harste, 2014).

#### Making inspired abductive thinking

Ingold (2014) wrote, “Design is always the search for something that is unknown in advance. The inner uncertainty drives the creative process” (p. 70). We found that making, using materials associated with art and technology, led to abductive thinking. We use abduction to describe the way the teachers took a leap of faith in using the materials that resulted in new insights. Most school work is based on inductive and/or deductive reasoning through which students are asked to put pieces of learning together to reach a conclusion (induction) or where students are asked to theorize to make and test hypotheses (deduction). Fostering abduction created spaces for the teachers to use the art materials to explore possibilities, their creativity, and their imagination.

For instance, a shift on the surface of a clay sculpture, led teachers to use that shift, integrate it into their design, and work through the design, allowing these shifts to speak to their making and to represent their social issue. Making in clay, for Barbara, was an inspiring



“‘journey’” my art took me on. I was able to sit back & reflect on what I was creating and change it as the clay transformed into many different shapes.”

By “trusting the process,” wrote Ingrid, “you may not get what you planned but you will create something unique and creative.” The clay workshop, while intimidating at the start for many teachers, was a medium that continuously engaged teachers in design/re-design. Teachers shifted from their original design and made deliberate decisions about the medium and materials to re-design their project. With each movement of the clay, teachers, like Victoria, made design decisions about “each of the facial features.” Being surprised at what she had sculpted, Harriet initially had thought that the clay bust she was making would be culturally similar to her. Yet, this figure “turned out to be culturally different from me and a complete stranger.” John postulated, “You can have a ‘vision’ of what you want to create in colour and design and it can go into different directions while you are working through it. By the time you have your end product it can be something totally different.” Candy’s comment aligns with John’s:

We are all makers. This became particularly evident in our sculpting studio. Technically we learned about the pinch pot, coil and slab methods. But the lessons extended far beyond the techniques. What I found particularly interesting in the sculpting sessions was how one small move changed the entire piece. Every time we added a facial feature the sculpture took on a new personality and voice. Of all of the pieces, this one ‘spoke to me.’ I feel a connection to my clay piece, ‘Be proud of who you are.’

Abductive thinking often came through the learning of techniques. Figure 6 is a series of three images that show Larina’s design choices in making to speak to the significance of indigenous culture and history. Larina remarked about the design of her sculpture, “all sides of the piece have to be considered, the full 360 degrees has to be attended to. The 3-D aspect of the

art tends to give the piece a life of its own, as if the person really once existed or still does.”



Figure 6. Larina's process of making in the clay workshop

Teachers found that the technology workshop was one of the “hardest assignments,” and the painting workshop “intimidating,” but in their making, teachers found that the process encouraged creativity, imagination, and significant re-designs, traits of abductive thinking, before coming to their final product. Carolyn learned that “nothing is ever really ‘done’—especially in art,” and Joseph “really felt like a ‘maker’”. Revising a piece of art and recreating it introduces a new meaning and new life into each piece.” Described as a “very interesting and intensive workshop,” teachers like Janice “certainly like[d] the idea of repurposing discarded technology...artists can take on an important role by repurposing.” Ideas did not always come easy, as Barbara found out:

At first, I had no idea what to create. I began by thinking about what the symbolism or meaning behind a remote control was, to be always ‘plugged in.’ Then I thought of a relative political issue that could represent being tuned in and informed...that idea, however, changed as I took the piece apart. I saw a topographical map and thought of ‘Build the Wall.’ At that point, I finally enjoyed what I was doing. This activity made me

see how challenging yourself can allow you to experience things you otherwise wouldn't, if you don't work with an open mind." (Figure 7)

In concert with Barbara, Pauline found that the technology workshop enabled her to "think outside the box" and she "never thought that we can turn a tech piece into something related to what's happening in the world," specifically in connection with fake news. Jane saw that working with discarded technology, a tape recorder, helped her connect the idea that "Talk is cheap" to the G20 Summit, a "small group of people who gather, but what do the end results really mean?...The agenda for the next Summit is already in motion and what will the word on the street be, then?" She noted that the piece of technology once served a particular purpose and, after deconstructing it, the result was different in format and function. Learning about the medium (e.g., paint, paper support, clay, technology bits and pieces) and through the materials (e.g., how the medium responds to touch, paint, assembly) led teachers into creative and fresh thinking about the materials' potential and the message.

Jerry Harste (2014) has written, "Engaging in art highlights abductive thinking, and is probably one of the strongest cases I can make for its significance in education generally and literacy education in particular" (p. 19). The institute was an opportunity for teachers to take on new perspectives, whether it be about fake news, First Nations People, "being yourself," "talk is cheap," and so on. Teachers worked with the different materials in each of the clay, paint, discarded technology, and paper-based workshops, and yet the perspectives on such aforementioned topics were very different. Substantive work with materials is necessarily located



Figure 7. Barbara's "Build the Wall" discarded technology project

within the maker's experiences and beliefs and abductive thinking prompts significant differences in their projects.

### Identity, Agency, and Critical Perspectives Emerged in Teachers' Making

Making is necessarily entwined with identity and makes visible ideologies, experiences, and beliefs of the maker. Each of the four workshops brought forward teachers' emotional, social, and critical response to social issues they saw operating in their lives. Steven wrote:

I've really learned a lot about myself. I've come to the realization that I am more creative than I thought. Allowing my creative juices to flow is very therapeutic and I actually like what I produce...My favorite art is the one that relates to any kind of social justice because it forces one to really critically analyse the issue!

Constanzo remarked, "Sculpting allows an individual to utilize their own creativity...despite the fact that all individuals received the same instruction how to create the head, eyes, nose, ears, and mouth, all sculptures looked different."

The technology workshop, in particular, made visible teachers' strong sense of critical literacy and issues they wished to speak to and against. Mary Jane stated, "In this workshop I had the opportunity to peel back an issue...how technology is used to position people to think/feel one way or the other about an issue. In this case it was how radio affected the spread/maintenance/defeat of communism...I totally understood how the uncensored/unfiltered media allows us to be positioned because of the popularity of the Internet." As teachers deconstructed their discarded technology pieces and reflected on the original intended use of those pieces, they also explored more deeply, the possible social issues in fake news they could represent as they worked with the bits and pieces. Anthony had to "really think outside the box" since the creative process called for not only transformation through hands and medium, but, also

transformation through time and space by talking back to the past, original intended use and power-effects of the technology they had taken apart, while re-designing it to address current fake news in a satirical way. Like Anthony, Anaya saw how making through the use of discarded technology

...was so layered and full. I found this workshop the most enriching because every new idea led to another new idea and I found the process generated, for me, a deep thinking process. For example, I started with the fun shooter camera and started thinking about what this technology meant in the past and how that meaning was completely transformed when filtered through the lens of what ‘shooter’ has come to mean in 2017 in a world of mass shootings and social media and the 24-hour news cycle which delivers this dread to us on the same device we use to take our family photos.

In this workshop space, time and matter were involved in a process of differentiation and entanglement, what Barad (2011) referred to as spacetime mattering. Barad proposed that there is an inseparable dynamic between human and nonhuman, material and discursive, and natural and cultural factors (Barad, 2012). Individuals do not exist, but materialize through intra-action with space, time, context, and material. Further, for Barad (2012), agency, the ability to act, is not something afforded to someone, rather it emerges from this intra-action that occurs between the individual and her/his interaction with objects, concepts, texts, etc. while maintaining their independence (Figure 8). From this perspective, everything is “entangled” with everything else (Barad,



Figure 8. Intra-action, teacher, materials, context, and text

2012). Through intra-action across the workshops and across time, teachers reflected on the direct experiences within each workshop. For example, Anaya's work with the shooter camera brought together an entanglement of the materials, the process of re-design, her past and current beliefs, the context in which this project was made, among other factors. Teachers were marked by the cultural contexts – both human (themselves, workshop leaders, colleagues) and nonhuman (materials, setting, context)—out of which agency materializes (Barad, 2007).

Critical literacy and intra-action positioned teachers, through making, to transform their own thinking about the arts, texts and critical literacy. The projects that they made enabled teachers to notice how the materials, techniques, process were avenues to adopting critical stances. The workshops enabled teachers to engage in art-making experiences that, at once, transformed their understandings of art and the materials used to create projects that spoke to issues of social importance. Maxine Greene (2001) argued that “education ...is the process of enabling persons to become different” ...the learner must break with the taken-for-granted...and look through the lenses of various ways of knowing, seeing, and feeling in a conscious endeavor to impose different orders upon experience” (p. 5). While we acknowledge that different subject matter areas offer learners opportunities to become different, we want to argue that art is particularly good at setting up the conditions for abductive thinking. Through these workshops, teachers experienced something new; their senses were awakened, their imaginations released (Greene, 1995), and the context afforded them to engender different perspectives on issues of social importance. As critical literacy researchers, we understand teaching and learning as an ethical and critical endeavor. By encouraging teachers to participate in experiences of making art we anticipate that they will perceive issues newly and in so doing “produce different knowledge and to produce knowledge differently” (St. Pierre, 1997, p. 175).

### **Discussion: Opening Up Spaces for Critical Making and Reflection**

For us, the arts have been a significant part of our lives as researchers, artists, and teachers. We have worked with hundreds of teachers in these institutes, and with each summer, we have gleaned new insights into the importance of the arts in learning, teacher education, and in our everyday lives. Within our findings, we presented analyses of how teachers experienced the institute. We saw that they developed different stances about the arts and technology-turned-art through their knowledge of materials, techniques, and process. Through their engagements, they learned about themselves as makers, but also saw themselves as artists, a move many had not anticipated. With growing familiarity with materials and techniques, teachers intuitively worked on their projects that led to new insights into themselves as artists as well as into the significance of the issue of social importance they wished to represent. Their sustained work and learning with and through the arts resulted in shifts in design from initial ideas to more complex statements in the re-design (Janks, 2012). During the institute, teachers moved into a way of thinking that was unstable and uncomfortable, a place of uncertainty and fear, and yet was a “calming” place where they could “get lost in the making.” This study precipitated several interesting insights that we now present here to discuss the significance of this work.

Intersection of Art, Technology, and Design/Re-design

This study provided insight into the intersection of art, design/re-design, and technology (Figure 9). We argue that for teachers to adopt

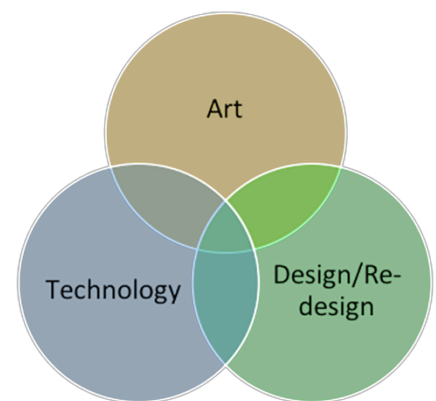


Figure 9 Intersection of art, design/re-design, and technology

different practices that substantively draw upon the arts, art has to feel good to them. They must have a positive experience with the materials in order to explore the potential—the affordances—of the materials. Teachers liked working with the materials and the medium. When teachers initially acknowledged that art was an elusive system of communication meant that art was working, and that this would engage them in more complex and abductive thinking. We also recognized that inquiry brought these areas together. With every art piece, teachers engaged in inquiry in which a dozen questions arose, with some of these questions not answerable at a particular moment of making. Yet we suggest that it is this quest for answers or solutions that led teachers to try different approaches, adjust their processes, and work with different materials. Especially in the discarded technology workshop, teachers were positioned to think deeply about technology, the purpose of the device itself, how it is/was used. In the re-design, they studied the power-effects that the device had. One teacher felt “sad” when she took apart the tape player she had brought. This tie to technology, a pervasive message across the discarded technology projects, highlights the significant hold that technology has on our everyday lives. The teachers’ project simply entitled “Technology Puppet” states this clearly and simply (Figure 10). The deconstruction of the device with the intention to re-design as a satire on fake news encouraged the teacher/maker to present the project both as a statement on fake news, but also as an art work that others would view. In this way, art provided a different context and perspective for which the device was originally designed.

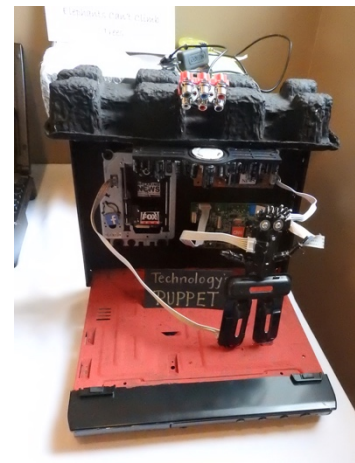


Figure 10. Discarded technology speaks to the pervasive hold technology has on our everyday lives



Design and re-design (Janks, 2012) also have to feel good. Design, according to Janks, is about making the project. Design and re-design are “on-going and iterative” (p. 153). When teachers designed their projects, they necessarily made choices about which materials to use, how to use them, and how they anticipated their projects would look. Re-design is the work of critical literacy or how the text might work in terms of critique. Critique, stated Janks, enables teachers to consciously engage with the tools, the medium, and materials to make their projects, and how these resources could be used to re-design the project. To move into re-design, “One has to have a sense of how the text could be different and this requires something in addition to engagement. One has to be able to read with and against the content, form and interests of the text in order to be able to redesign it” (Janks, 2012, p. 152). As teachers worked through “and then do something else to that something,” their original ideas often shifted to consider the social issue; they moved into critique. Their choices of materials (e.g., hair dryer, papier-mâché sphere, car charger, photo of Donald Trump with pursed lips, etc.) (Figure 2) and where they were placed were deliberate in order to re-design to speak with and against what they wanted to say about the issue of social importance and how it would look in its final form. With critique, teachers were able to disrupt dominant discourses and re-design them through art.

#### Living an Arts-intensive Critical Literacy Curriculum

With the institute grounded in critical literacy, teachers learned and participated in the arts which engaged them in understanding the range of linguistic, cultural, communicative and technological perspectives and tools that were essential when making new projects. This insight then enabled them to move into curricular ideas and how to support children to engage democratically in their learning. Further, the institute supported the significance of the arts to mean; teachers used drawing, painting, sculpting, assembling, cutting, and pasting to speak with

and against issues of social importance. By framing language in this way, teachers experienced language (visual, linguistic, digital) as discourse fused with their ideologies. They were able to use art to speak with and against ideologies that are used to position particular interests, often with the intention to sway, like the term “fake news.”

Throughout this institute, teachers engaged in discussions around social issues that mattered to them. By using Jasper Johns’ (Hollevoet, 2002) framework to organize the workshops, we suggest that teachers were encouraged to dig more deeply into why art matters in critical literacy curriculum. Each set of workshops enabled them to have time to think between workshops about what they were making, and what they hoped to say in their final project. In the discarded technology workshop, for example, Sarah was excited to go home that evening as she “knew exactly the materials I need to do this project.” The workshops carried into their everyday lives as they thought about objects to bring from home, staying late to work on projects, and to continue to study their projects with the eye of both an artist and a critical literacy teacher. In the end, their projects resulted in teachers’ feeling that something of critical significance had been accomplished. Sarita identified the significance in “finding shapes and projecting a social justice issue.” The workshops also provided tangible, hands-on, and pragmatic experiences that they could extrapolate into their own contexts. Caroline thought that she could provide a “bridge between language and culture...art helps ELLs to have a voice.” Jai found that the discarded technology workshop would help her kindergarten students to understand “loose parts” and to “try some sort of satire piece later in the year.” As an administrator, Jane saw making as a way to shift the mindsets of the teachers where she worked through facilitating a workshop for them.

Exploring making has enabled us to see how different materials might be used to support teachers to take on a critical stance, how they might reposition themselves differently in their

classrooms, and how they may imagine a curriculum in which making is a significant and critical part. The project, however, as Ingold (2014) reminded us, is not the end goal. The end goal is to see the value of what is learned at different points in the process of making. This sustained participation in making, perhaps, is the portal which they need to go through to deeply understand the relationship among maker, materials and process. Candy, one of the teachers, summarized the importance of this participation:

Engaging with literacy in alternative/nontraditional ways has been exciting. As learners who are makers, we are creating, discovering, and exploring new mediums. We are able to express ideas and messages that may not have been expressed if we are using traditional paper and pencil methods....Everyone has an entry point. Everyone has a story to tell.

These stories locate the personal connection that teachers must make when engaging in experiences associated with the arts. As they worked with the arts, technology, and design/re-design, teachers lived a critical literacy curriculum first-hand which enabled them to consider ways of taking up critical literacies in their own lives and the lives of their students (Vasquez, Tate, & Harste, 2013).

### **Implications for Pedagogy and Research**

This study yielded insights into future directions for pedagogy and research. The institute was designed to experience lived practices around working with materials associated with art, design/re-design, and technology from a critical literacy perspective. First, we suggest that teachers design making spaces in their classes that include opportunities for students to inquire into issues of social importance through re-design. Re-design positions students to read the world and read against the world (Janks, 2012). Second, we suggest that this institute provided more

opportunities than usual for teachers to work in and through the arts; not many teachers have that kind of space to engage in intuitive and abductive thinking in which they can imagine themselves differently as teachers. We suggest that teacher education programs and professional development, grounded in critical literacy, engage teachers in learning about and through the materials, techniques and processes in order to provide these same experiences for their students. It was their direct involvement in making that generated insight that then prompted teachers to consider curricular ideas and how to support children to engage democratically in their learning. Third, the introduction of multiple perspectives in teacher education would benefit future and inservice teachers. The institute supported the perspective that language is not about learning letters, words, sentences, or texts; teachers used drawing, painting, sculpting, assembling, cutting, pasting, to speak with and against issues of social importance. By framing language in this way, teachers experienced language (visual, linguistic, digital) as discourse fused with their ideologies. Fourth, in terms of teaching, we must get better at understanding that the arts foster imagination, intuition, and creativity.

In 2012, *neaToday* reported that nearly 4,000,000 elementary children do not get any visual arts instruction at school (Walker, 2012), and it is more affluent schools that have art as a regular part of the curriculum while those less affluent do not (Morel, 2017). Art should not be a privilege experienced only by children in affluent schools, but a necessity in all schools. We suggest that administrators support a strong arts program, provide professional development for all teachers to learn to work with the arts, and to provide a range of materials. In so doing, the arts could become a defining characteristic of the school, and the school could have a shared vision for how the arts will serve children in their future. Education that frames the arts as central

to engendering imagination, creativity, and intuition is central to an inquiry-based critical literacy curriculum that values active, multiple, and socially involved learning.

In terms of research, we have argued for a number of years, that the role of the arts in school have remained largely unexamined because many continue to believe, like some of the teachers in this study, that literacy research is about written and oral language. Art has yet to be considered a language system that must be studied seriously in literacy and language arts classes (and other content classes). We continue to advocate for research that systematically studies re-design and the intentionality in learners' making. As teachers engage in the arts as part of their professional learning, research that investigated the extent to which the arts have been implemented and/or if there is impact on children's learning would advance knowledge in a range of fields. Research that investigates more systematically intra-action in making between and among materials for making, the maker, and process would enable researchers to more clearly identify aspects of making that inspires abductive thinking. While research has documented that the arts engender imagination, the arts also engender empathy, or the ability to sense the feelings of others. This study provided space in which teachers' inquiry into social issues showed a sense of empathy toward groups who are marginalized (e.g., First Nation, English learners). Research that studies the relationship among empathy, the arts, and critical literacy is important if we are to envision the possibilities that imagination, intuition, creativity, and empathy can manifest.

### **Conclusion**

In August of 2018, Aretha Franklin, a legendary soul and gospel singer, died. Among the many clips remembering her legacy was one in which she sang "Natural Woman" at the Kennedy Center for the Arts in Washington, DC, USA as a tribute to Carole King, one of the

award recipients. A cutaway showed the former US president Barak Obama wiping away tears at the power of the singer, the song, and the context. Clearly, President Obama, through Aretha's voice, felt this power in that moment that brought him to tears. While less known, Ms. Franklin, the Queen of Soul, and her music inspired her into social activism. Songs like "Respect," "Natural Woman," and "Think" were calls to action, bringing attention to the problematic treatment of women by men. President Obama stated,

Aretha helped define the American experience. In her voice, we could feel our history, all of it and in every shade -- our power and our pain, our darkness and our light, our quest for redemption and our hard-won respect. May the Queen of Soul rest in eternal peace. (France, 2018).

Other voices around the world do social justice work through their art. We highlight three here. In Australia, Ross and Borschmann (2018) wrote about Archie Roach who became the voice of the stolen generation beginning with his ballad "Took the Children Away". Flynn (2014) wrote that Roach's song, "gave voice to the collective Australian conscience regarding the government's prior policy of forcibly removing Indigenous children from their families" (par. 4). AJ, a French artist, inspired a whole world to contribute to his photographic art project Inside Out. Over 320,000 people from more than 139 countries participated in this project creating enormous photos that spoke to issues of discrimination, misogyny, xenophobia, among other topics (<https://www.jr-art.net/jr>).

Jerry Harste has argued across his scholarship that curriculum is a metaphor for the lives we want to live and the people we want to be (Albers, Harste & Vasquez, 2017). For Aretha and Archie, they participated in a set of experiences that enabled them to be the singers they wished

to be. JR has inspired a whole world to represent the kind of world in which they wish to live.

We can only hope that more children have similar paths that these artists experienced.

In educational spaces where imagination thrives, teachers and children both have hope to move beyond their present circumstances. This study provides evidence that in such spaces as the institute, the arts move people to empathy and into social action. Like professional artists such as those described above, teachers in this study envisioned how they could make change in their own classes and inspire children into social action. Jai, Caroline and Jane, through their work with children and teachers, respectively, on carbon foot prints and trash, participation in learning through art when English is not an option, or to imagine the possibilities when teachers move solely from a verbocentric stance to consider how the arts communicate perspectives in a way other communication systems may not.

Making inspires abductive thinking, re-design, and empathy, and opens up spaces for teachers to imagine literacy curriculum that speaks with and against social issues. Making in this institute was as much about working with making materials as it was about building confidence as makers to confront issues that marginalize some and privilege others. Making is also about becoming democratic citizens who can speak with and against social issues that continue to drive wedges between those who have access at the highest levels and, through this, participate in making decisions that often are outside the control of those of us who do not get to participate. When teachers can live a critical curriculum in which multiple and sustained opportunities are presented, they understand the complexity and value that multiple communications afford.

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