MEDIA LITERACY AS ECO-JUSTICE PEDAGOGY[1]

COMPETENZA MEDIALE COME PEDAGOGIA DELL'ECO-GIUSTIZIA

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ABSTRACT

Multicultural education promotes equity by confronting social justice concerns related to identity, culture, sexism, and racism. Progressively, technology is harnessed to advance the goals of multicultural education. Yet, increasing use of technology devices contribute to hazardous environmental conditions that disproportionately affect globally marginalized communities. However, scholarship critiquing the impacts of technology on the environment or its consequences for the health of people and planet is scarce. My research investigates *media literacy* as an ecojustice pedagogy that builds awareness and helps empower students to address environmental injustice as it relates to unchecked technology use and the impacts for our world's communities.

KEYWORDS

Information and communication technologies (ICT), multicultural education, media literacy, eco-justice pedagogy, Antonio López

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SOMMARIO

L'educazione multiculturale promuove l'equità affrontando problematiche di giustizia sociale connesse all'identità, alla cultura, al sessismo e al razzismo. La tecnologia è sfruttata progressivamente per promuovere gli obiettivi dell'educazione multiculturale. L'uso crescente di dispositivi tecnologici contribuisce tuttavia a condizioni ambientali rischiose che colpiscono in modo sproporzionato le comunità emarginate a livello globale. La ricerca che critica gli impatti della tecnologia sull'ambiente o le conseguenze per la salute delle persone e del pianeta è tuttavia scarsa. La mia ricerca indaga la competenza mediale come una pedagogia della ecogiustizia che costruisce consapevolezza e aiuta a responsabilizzare gli studenti nell'affrontare le ingiustizie ambientali, nella misura in cui riguarda l'uso non controllato della tecnologia e gli impatti per le comunità del mondo.

PAROLE CHIAVE

Tecnologie dell'informazione e della comunicazione (TIC), educazione multiculturale, competenza mediale, pedagogia della eco-giustizia, Antonio López

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1 Introduction

Information and communication technology (ICT) have tremendous potential to facilitate equity across educational contexts, including media production to support students with diverse learning abilities (Leach, 2017), uses of 3D printing to augment instructional materials for visually impaired students (Wonjin et al., 2016), and the many benefits of assistive technologies and culturally responsive computing (Scott, Sheridan, & Clark, 2015; Scott & White, 2013). Yet, increasing demands for ICT in western nations perpetuate unstable habits of consumption that contribute to environmental hazards and unhealthy living conditions for people in globally marginalized communities. From the extraction of essential minerals found in our technologies — such as tantalum — to the storage of our data in massive «cloud» computing centers, to the unmonitored disposal of toxic electronic waste (e-waste), ICT have significant impacts on the planet and people. Specifically, the mining of conflict minerals and the epidemic of e-waste have caused, and continue to cause, devastating human suffering and catastrophic environmental damage in The Democratic Republic of Congo, Ghana, and China, exemplifying environmental injustice (Corbett, 2006; Gettleman & Bleasdale, 2013; Martusewicz, Edmundson, & Lupinacci, 2011; Puckett, 2011).

While advocates of multicultural education historically confront issues of social injustice, including concerns related to representation and equity of gender, race, culture, and ethnicity, we rarely address media ecologies or prepare students to consider how mediated communications impact and influence environmental awareness, attitudes, or actions. From this context, the following inquiries emerged: What opportunities exist in multicultural education to address environmental injustice? How might media literacy, as an eco-justice pedagogy, serve the goals of multicultural education? What specific curricular actions might be enacted?

The purpose of this article is twofold. First, I hope to facilitate communication and connection across disciplines in multicultural education and media literacy. Second, I seek to contribute to emerging dialogue regarding how classroom practice may be enacted using media literacy as an eco-justice pedagogy. Research in these areas is important since there are few existing examples of media literacy curricula comprising ecological perspectives and practices (López, 2013; 2014) and even fewer studies illuminating the global impacts of technology as an issue in multicultural education.

Using media literacy as an eco-justice pedagogy, teachers may offer students opportunities to reframe how they conceptualize media as an environment that shapes not only cultural and social ideologies regarding how we think about people and identities, but also the physical environment and our impacts on the environment. Through media literacy that comprises an eco-justice pedagogy, we might invite awareness as a crucial first step in cultivating a more sustainable future and dismantling anthropocentric thinking and behaviors.

2 Background

2.1 *Multicultural Education*

In a 2003 position paper, The National Association for Multicultural Education (NAME) defined *multicultural education* as a «philosophical concept» elaborated through a teaching and learning process that prepares students to: «work actively toward structural equality in organizations and institutions», «critically analyze oppression and power relationships in their communities, society, and the world», and «critique society in the interest of social justice» (National Association for Multicultural Education, 2003). In this way, multicultural education has generally comprised awareness, advocacy, and action as key aspects of its definition and practice. Moreover, in a 2008 resolution, NAME recognized the interconnections between social justice goals and environmental justice articulating «research in both social and environmental justice reveals the disproportionately high degree to which communities of color are exposed to pollution», declaring «a call for action to develop and implement just and equitable ecological policies» (National Association for Multicultural Education, 2003). Yet, the question remains for teachers as to how we might accomplish the aims of multicultural education in our classrooms in order to combat environmental injustice in a meaningful way. Media literacy offers both «a subject of study a and way of teaching» (Considine, personal correspondence, 2003-2005) that may facilitate the action goals of multicultural education as they pertain to combating environmental injustice.

2.2 *Media Literacy*

The National Association for Media Literacy Education (NAMLE) defines *media literacy* as «the ability to access, analyze, evaluate, create, and act using all forms of communication» (National Association for Media Literacy Education, 2010). Like multicultural education, this broad definition comprises aspects of awareness, action, and advocacy. Moreover, like multicultural education, media literacy in practice has historically invited students to disarticulate power relationships related to a range of critical social justice concerns including issues of identity, cultural representation and appropriation, sexism, racism, consumerism, and economics. Through media literacy, teachers have encouraged students to decode how these issues are framed, by whom, why, and with what effects. Scholarly literature provides evidence of media literacy as a social justice-oriented pedagogy with emancipatory goals (Cortés, 2000; Hobbs, 1998; Kellner & Share, 2005; 2007; Torres & Mercado, 2006). Further, a number of media literacy scholars are pushing to incorporate issues of environmentalism into their media courses (López, 2013; 2014), illuminating issues related to the climate crisis and environmental injustice. Through media literacy as an eco-justice pedagogy, teachers and scholars in multicultural education may more critically examine

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the benefits of ICT for multicultural education, while also acknowledging and actively responding to the problems of ICT consumption.

2.3 Framing Information and Communication Technologies

Information and communication technologies (ICT) contain and convey ideologies that reinforce particular narratives. Martusewicz, Edmundson, and Lupinacci (2011) use the concept of *root metaphors* — emerging from the works of Brown (1989) and Bowers (2002)— to elucidate the complexities of opposing environmental racism and cultivating ecological thinking in a heavily mediated landscape. They explain root metaphors are «the buried ideological sources from which the culture draws strength and reproduces itself intergenerationally» (p. 64). In turn, when Bowers (2002) refers to the «the illusions of global plentitude» (p. 21), he is referencing a failed metaphor through which the public, specifically the American public, perceives and experiences the world. In this case, the root metaphor is *anthropocentrism*, which is the «belief that humans are superior to everything else on earth and have unchecked dominion over it» (Lowenstein, Martusewicz, & Voelker, 2010, p. 102). In his work *Greening media education*, López (2014) connects anthropocentric thinking with the mechanistic thinking of the industrial revolution, ultimately calling for a shift towards more *ecocentric* discourse in education. He argues, «when media ecosystems are discussed solely within an economic or technological framework, [it is] an example of anthropocentric discourse because it implicitly endorses the view that technology, progress, and economics are outside the domain of living systems» (p. 35). Celebrating the successes of ICTs to support multicultural education without also critiquing the inherent power structures and environmental consequences typifies anthropocentric thinking. In contrast, ecocentric discourse views nature as a «nonhierarchical mix of interdependent relationships or a web of all life» that is valuable in its own right (Corbett, 2006, p. 27). Ecocentric discourse in education has the potential to encourage critical engagement, analysis, and commentary of how the idea of our environment is framed by media and how the physical environment is impacted by our habits and behaviors.

Just as root metaphors impact human ideologies and values in regards to the physical environment, Lakoff (2010) explains that media frame ways of thinking about the environment, the climate crisis, and sustainability. Lakoff (2010) argues for audiences to critically examine how environment is framed by the mass media, explaining that «all of our knowledge makes use of frames and we cannot help but think in terms of frames» (p. 71). He makes reference to semiotics by explaining, «frames are communicated via language and visual imagery» (p. 74). In thinking about root metaphors and framing, one may aptly connect media literacy with eco-justice pedagogy. The concepts of metaphorical thinking and framing are already highly present in media literacy, which calls on students to engage in critical inquiry and to actively decode media messages not as objective sources of knowledge, but as culturally specific, value-laden, and ideological texts.

2.4 Eco-Justice Pedagogy

According to Bowers (2002), an *eco-justice pedagogy* «places emphasis on understanding that language is not a conduit for communicating objective knowledge, but rather carries forward culturally specific ways of thinking and that the student is connected, often in unconscious ways, to this symbolic ecology» (p. 33). Lowenstein, Martusewicz, and Voelker (2010) describe *eco-justice education* as an emerging framework «for analyzing the deep cultural roots of and intersections within social and ecological violence» (p. 101). Eco-justice pedagogy, eco-justice education, media literacy, and multicultural education align in a common focus on decoding the roots of cultural ideologies and beliefs through critical thinking and action. Yet, while multicultural education has traditionally cultivated critical thinking about the ways identity is constructed, encoded, decoded, and enacted, it is unclear how teachers and scholars are addressing environmental injustice in their classrooms. Perhaps a reliance on ICT obscures our abilities to fully embody ecocentric discourse and eco-justice pedagogy. Through media literacy as an eco-justice pedagogy, multicultural education may fully actualize social justice goals and practice.

2.5 Media Literacy as Eco-Justice Pedagogy

López (2014) posits that we might approach curriculum reform for environmental justice by incorporating media literacy in two ways. The first is by fostering the understanding that our media devices (such as computers and smartphones) impact the physical environment by «leav[ing] an ecological footprint through their manufacture and disposal […] [and contributing to] e-waste, contamination, loss of biodiverse habitats, damaged health, and excessive CO2 emissions» (p. 25). The second is by recognizing the media *mindprint*, which is «the way that communication influences how we define and act upon living systems» (p. 25). The media mindprint reflects the ideas embodied by root metaphors and framing in that it calls for students to recognize and respond to how «communication influences how we define and act upon living systems» (p. 25). López provides four specific ways that media impact and influence our experiences of living systems: «(a) propagating an ideology of unlimited growth, (b) reinforcing the view that nature is separate from humans, (c) marginalizing alternative ecological perspectives, and (d) favoring industry discourse surrounding environmental issues» (p. 25). Each of these is representative of anthropocentric ideologies and further conveys the importance of shifting cultural metaphors to comprise ecocentric discourse. As teachers, we have the opportunity to embody media literacy in our pedagogy as a way to reframe root metaphors and communicate critical learning opportunities that encourage ecocentric discourse and action.

3 Methods

In this study, I employed an action research (AR) approach whereby the goal was not only curricular action on the part of myself, as teacher and researcher,

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for cultivating eco-justice pedagogy through media literacy, but also engagement on the part of the students by inviting them as active members of the learning experience. Feldman, Paugh and Mills (2004) explain that the primary purpose of AR is, «to modify or transform one's practice or situation [and] the collection and analysis of data are used to guide the development of a plan or action or to articulate a critical analysis of the individuals and institutional barriers that are shaping their lives» (p. 953). In this case, I modified my curriculum and pedagogical practice in *Media Literacy* during the Spring 2016 semester to address issues of environmental injustice. Edwards and Willis (2014) explain that AR typically unfolds through a recursive process that involves reflection, planning, action, and observation. They further note that AR normally requires several iterations and is, in this way, cyclic (p. 60). In this section, I will briefly discuss my reflection, planning, and action phases before fully describing my observation phase that includes details related to the research context, participants, data collection, and analysis.

3.1 Round 1: Reflection, Planning, and Action

This study emerged from a larger self-study focused on media literacy teaching and, in this, my *reflection* phase began as I worked to redesign and update my media literacy course to address my students' nonlinear experiences of media in a digital, networked age. Through my efforts, I uncovered the work of Antonio López as he sought to incorporate eco-justice pedagogy into his media courses. Through López (2014) as a critical friend, I was introduced to issues of electronic waste (e-waste) and, in conjunction with previous readings on conflict minerals, was prompted to search for more information on the extraction/manufacture/disposal trajectory of ICT. During the same period that I actively explored López, our university's College of Education invited Oregon's Outstanding Social Studies High School Educator of the Year from 2015, Tim Swinehart, to visit campus and conduct workshops as part of the Doctoral Program's Spring Symposium on Sustainability. Swinehart is a co-author of *A People's Curriculum for the Earth: Teaching Climate Change and the Environmental Crisis* (Bigelow & Swinehart, 2014) and had been working to incorporate environmental justice into his high school classes. I participated in his workshop *Teaching the Environmental Crisis through Story and Role Play* and was given a copy of his curriculum following the workshop. Up until my participation in Swinehart's workshop, I was unsure how I would address conflict minerals and e-waste in my *Media Literacy* course. Together, my exposure to the scholarship of López and the curricula of Swinehart comprise a variation of the critical friend relationship often included in AR. In particular, the guidance of López and Swinehart facilitated my project design by grounding the action beyond my role as researcher/participant (Kember, 2000). Following Swinehart's engaging workshop, I decided to incorporate story and role-play as instructional strategies and my *planning* phase began.

For this initial AR cycle, I changed my curriculum in two ways. First, I added an outside-of-class assignment that consisted of a reading response (Puckett, 2011)

that prompted students to learn about e-waste and reflect through the identification of key quotes and a media artifact related to the topic. Second, I incorporated an adapted version of Bigelow and Swinehart's (2014) *Indigenous People's Global Summit on Climate Change* role-play. For the role play, I wrote three new scenarios: (1) conflict minerals in the Democratic Republic of the Congo, (2) e-waste in Accra, Ghana, and (3) e-waste in Guiyu, China. I drafted these scenarios using a variety of articles and web-based sources (Gettleman & Bleasdale, 2013; Ottaviani, n.d.; Puckett, 2011;). Additionally, I employed two of Bigelow and Swinehart's (2014) scenarios (e.g., Yup'ik People of Alaska and Indigenous Peoples of the Amazon) for a total of five situations. Finally, I adjusted relevant handouts/graphic organizers from their curriculum for note-taking purposes. Together, the reading response and role play event comprised the *action*.

3.2 Research Context and Participants

The context of my research is a campus-based, undergraduate media studies minor that includes a required course called *Media Literacy.* The course provides opportunities for students to «examine what it means to be literate in the technological world of the twenty-first century where digital media pervades in our daily experiences» and «develop critical perspectives related to media constructions, representations, and effects» (Course Syllabus, 2016). Students from various majors across campus choose the media studies minor in compliment to their major area of study and to engage in creative media production experiences. While most of the courses in the minor focus on making media (e.g., *Digital Photography and Imaging, Video Production, Audio Documentary*), *Media Literacy* offers a theoretical approach to issues in media studies and employs a critical pedagogy. Previous iterations of the course had not incorporated issues of environmental injustice. This gaps in my course is reflective of the field of media literacy and communications at large (López, 2014), suggesting that students seeking to work in communications fields where they would be positioned to communicate about such issues are ill prepared to do so. Table 1 shows the demographic characteristics of my class during the Spring 2016 semester, including the range of students' majors.

TABLE 1

Demographic Characteristics of Media Literacy Class During Spring 2016

Characteristic	Number
Gender	
Male	11
Female	9
Year	
Junior	8
Senior	12

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Major	
Communication/Electronic Media and Broadcasting	10
Communication/Advertising	3
Communication/Journalism	2
Interdisciplinary Studies	2
Communication Studies	1
Communication/Public Relations	1
History, Social Studies Education	1

3.3 *Data Collection and Analysis*

As my particular objective in this study was to revise my curriculum to include environmental injustice as affected by ICTs, my data collection was centered on those sources that would enable me to decide how the revisions impacted students' experiences and perceptions. All data sources were qualitative. Table 2 shows the data that was collected for this study, along with the focus, date of collection, and form.

TABLE 2
Data Collection

Data Source	Focus	Date of Collection	Form
Reading and Response Assignment	Students responded to their assigned reading (Jim Puckett's «A Place Called Away») before browsing the web in search for photographs, memes, or other resources related to issues of ecomedia literacy. Then, students wrote a brief reflection that discussed the media they selected to share, why they chose it, and how it related to the issues brought up in the reading.	April 20, 2016	Typed as discussion forum response using university's Moodle course management system.
Students' notes on the *People's Global Summit on the Digital Climate Crisis* role-play activity handout.	«What actions would you like to see the rest of the world take to address the problems facing you and other people as a result of the digital climate crisis? Be descriptive and specific. Put these in order of priority.» Adapted from: Bigelow, B., and Swinehart, T. (2014). *A People's Curriculum for the Earth: Teaching Climate Change and the Environmental Crisis.* Rethinking Schools.	April 27, 2016	Pen/pencil notes on physical paper handouts.

Perspectives Interview Assignment	Students responded to a selection of interview questions that I wrote in order to learn more about how their perspectives in media literacy had developed throughout the course. Students had the option to complete the interview questions by typing in a Word document, responding in an audio recording, or responding in a video blog (vlog). The questions that comprised the *Perspectives in Media Literacy* assignment are included in the Appendix.	May 2, 2016	Typed in Word document (17), digital audio file (1), and digital video file (1).

To analyze my data, I employed primarily descriptive-interpretive qualitative methods so that I might understand the effects of my curricular actions as phenomena in their own right, instead of from an outside perspective (Elliott & Timulak, 2005, p. 147). I employed opening coding as established by Glaser and Strauss' (1967) whereby I organized like domains of information and meaning into categories based on occurrence and recurrence. All names used to represent the data are pseudonyms.

4 Findings

Greenwood, Whyte and Harkavy (1993) describe action research as an «intrinsically case-oriented» and emergent process in which researchers strive to learn «general lessons from specific cases, to operationalize concepts, to develop comparisons, and the like, through repeated case applications» (p. 179). With this in mind, I report case study results from my investigation as a first phase in my cyclical work examining media literacy as an eco-justice pedagogy and describe next steps in the *Discussion* section.

4.1 *Impact of Role Play*

Overwhelmingly, students responded in their *Perspectives Interview* that our role play was a significant and memorable experience. Specifically, students noted the factors of immersion, adaptation, and repetition. Students explained that this type of immersive experience not only served to develop their awareness of issues, but also to instill these concerns in their memory. The use of first-person language in the role play was essential in developing the empathy required for students to engage in meaningful and deep learning. Marten explained: «...[it was] really eye opening to see what is happening in other places. I remember that day the class period went by so fast because we were so immersed in what we were doing…» (Marten, Perspectives Interview, 05/02/2016). Todd explained how adapting a role helped him «into the shoes» of others. He wrote: «[The

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role-play world summit] really allowed me to comprehend the problems. By stepping into the shoes of others, I had to think of everything as an effect of the big problem and see the big picture» (Todd, Perspectives Interview, 05/02/2016). Perhaps the most salient aspect of the role play was the repetition students experienced as they «traveled» from country to country sharing their concerns. Bill explained:

> [the eco-panel] provided me with a lot of new information in an interesting and engaging way. The roleplaying aspect forced us to step outside of our little American bubbles and look at the impact of Western technology from the perspective of another country. It was both interesting and appalling to hear about what was happening in the other countries… I had to repeat Congo's story to every group that came around, it really made the information stick in my mind. I never realized before how our overuse and essential waste of our technology so negatively impacts other countries, and that is part of the problem. More awareness needs to be raised of these issues. (Bill, Perspectives Interview, 05/02/2016)

On their role play handouts, student groups compiled specific action items for Western governments to address the ecological damage in their communities. Their actions items included but were not limited to: (a) funding for the development recyclable technologies; (b) government regulation of conflict minerals and e-waste; (c) financial support for proper disposal of electronics and health aid; (d) financial support and protections for workers dismantling e-waste; and (e) compensation for lost resources and lives (Students' notes, *People's Global Summit on the Digital Climate Crisis* Handout, 04/27/2016). In one case, a group's response indicated individual action possible outside of the role play scenarios, and thus outside of our class. This action item was «Know where your amenities are coming from and who they affect» (Adam, *People's Global Summit on the Digital Climate Crisis* Handout, 04/27/2016). Overall, students gained insight into how our use and demand for digital media and ICT was adversely impacting people and planet, developing actionable strategies for global intervention. Beyond these larger strategies, one group suggested specific actions they could take in their own lives.

4.2 Out of Sight, Out of Mind

While the role play scenario was effective in eliciting strategies to solve issue of ICT manufacture and disposal, data from students' individual reflections did not represent action. Across the board, students described issues in terms of being «disturbing» and «unfair», yet they did not make specific suggestions as to how they might engage in social change. For example, one student shared, «It's kind of disturbing to know that we throw away our waste to other, already suffering, countries, just so we don't have to deal with the hazards that come with getting rid of the waste» (Cynthia, reading response, 04/20/2016), while another

wrote «It is really unfair of us to dump all our old machines to places like this one, we are harming them and the environment by doing so. We have to be aware of where all this e-waste actually goes, and things are getting better but there is so much more to be done» (Mallory, reading response, 04/20/2016). The overall feeling that these issues were «out of sight, out of mind» was conveyed well in one student's response as he described two counter ads he had identified for the assignment. The first ad showed an image of the ink outlines of several brand-name logos on the left and an image of the ink outlines of a variety of plants on the right. Above the sketches was text in red font that read: «Name these brands. Name these plants.» The second ad showed planet earth against a white background. Tire tracks were evident through the earth, which appeared squished and deflated. In the lower right corner was text in black font that read: «Did you feel that bump?». The student explained:

> These are two ads that I found from *Adbusters* that force us to think of things from a different angle or in different ways. The first «ad» is a prime example of this, where the brands and logos that surround us have become more recognizable than the nature that we came from. This helps the viewer put things into perspective, as most people wouldn't be able to tell what the plants on the right are but would more than likely be able to name all of the logos on the left. The other «ad» shows how absent minded we have become regarding environmental issues. It's something that doesn't directly affect us, and we barely notice it, like running over a ball in a car (Colton, reading response, 04/20/2016).

Colton's observation that «it's something that doesn't directly affect us, and we barely notice it» is connected to larger media ideologies, or root metaphors.

4.3 *Where does it come from? Where does it go?*

In many instances, students' language reflected an ideology of «magic» to describe our disposal of trash. For example, Elaine wrote «It is so simple to place all of your used trash into a large black plastic bag and send it off through some magical contraption» (Elaine, reading response, 04/20/2016), while Todd shared «We can't just live under the false assumption that when we throw away our technology, it magically disappears. It goes somewhere; that somewhere is becoming worse off than the rest of our world because we live with the false sense of security that everything we are doing is right» (Todd, reading response, 04/20/2016). The use of the word «magic» and «magically» may be reflective of the hashtag #mediamagic, which represents the landscape of constructed and manipulated images that predominate in today's media culture. The use of media-related metaphors was evident in another student's response as she worked to convey anthropocentric attitudes in her writing; «Modern life is convenience-based and detached from nature. We therefore expect unpleasant realities or things to just «go away,» usually by changing the television channel. This attitude extends

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to our trash as well. It's easy to throw away things and just forget about them» (Nina, reading response, 04/20/2016). To that end, it seemed that the reading and response may have prompted some students to consider the manufacture, usage, and disposal track, although teaching and learning about these aspects was not directly included in the curriculum. After quoting an excerpt from the reading, Sanders wondered «"Around 400 [40-foot intermodal corrugated containers], each containing about 600 computers or monitors arrive each month at the Port of Tema, Ghana, from the UK, USA, Canada and countless other rich and developed countries." This bit got me thinking...600 [loads] each month? For one, that's absurd. For two, it can't be good a good thing that 600 of these a month are trash. How many are out there for the consumers? How much material does it take to make all of those computers?» (Sanders, reading response, 04/20/2016). Similarly, Colton questioned:

> It really caused me to take a step back and analyze my own thoughts and how I consume or use products. Our increasing reliance on «young» electronics shows how our commodity based society has changed to favor the companies making the products, rather than the consumers using them. Reliability used to be the main reason someone bought a product, whereas now people buy products based on style or whether or not they are the new cool thing. Some, myself included, do still try to find products that are reliable. But most go the previous route. Companies have less pressure to make things reliable and consistent, because they know we will buy them over and over again within just a few years. This cycle then leads to more and more electronic waste that is filling the landfills and soil with harmful metals and chemicals. (Colton, reading response, 04/20/2016).

Colton's thoughts referenced the ideas of planned and perceived obsolescence, which were not explicitly discussed in class or included in the curriculum. These concepts may be essential in my next cycle of curricular revision, as I will argue in my *Discussion* and *Round 2 sections.*

4.4 From Awareness to Responsibility

While direct and actionable steps were not overtly suggested, the data illuminated that students reflected on their moral responsibility, demonstrating their perception of environmental hazards of digital waste as a social justice concern. In particular, students asked questions about the implications of consumption, planned/perceived obsolescence, and made suggestions about how to deal with e-waste. For example, Elaine shared her feeling «that it is both a civil and moral responsibility of technology developers to put sales to the side when developing the latest and best product when the new product will create so much waste and pollution» ultimately concluding that she «hope[s] that both businesses and consumers step up to realize the implications of their actions» (Elaine, reading response, 04/20/2016). While she suggested technology developers might forgo

profits for the good of the planet, Jake suggested repairing electronics and digital technologies to curb waste; «I think it is absurd to dump toxic waste into a another country, yet alone a developing poor country. Although it is hard to recycle electronics, we could simply repair these electronics and donate them to these developing poor countries. Instead of just throwing them away» (Jake, reading response, 04/20/2016). Finally, Muir articulated how social justice, democracy, and sustainable action are interconnected, writing «Part of a socially just democracy is the ability to look forward, not just at your generation or your children's, but at the distant future, in order to keep our world clean and sustainable for centuries into the future» (Muir, reading response, 04/20/2016). Together, these data indicate that students experienced feelings of civic responsibility and the desire to seek change.

4.5 Media as a Change Agent

The most exciting finding was evidence that students perceived their work in *making* media as advocacy, suggesting media production and media makers as agents of change. For example, Muir commented on how memorable Public Service Announcements (PSA) can shift our cognitive states and help the public think more seriously about ecological issues. In commenting on the ad — a PSA by the World Wildlife Federation that encourages less consumption of paper towels — she explains:

> I think that this PSA is a positive example of something that can be done in the area of media literacy. I chose this because I believe it provides a very memorable and tactile experience for those involved and is therefore more effective in ways at getting people to think about the environment around them and how their actions can contribute to the destruction of our natural resources […] Having such PSAs or ads that are memorable and that present themselves in our everyday environment will help people to think more seriously about where the products they use come from, and where they go when they are thrown away (Muir, reading response, 04/20/2016).

In discussing the role-play activity we enacted, Sanders described the prominence of media in our lives and the role media could have in illuminating the climate crisis. He wrote: «[Media] should be to educate and bring a people forward. It is often used to diminish, tear down a people, or persons. The role of media shouldn't be to distract. But to shed light upon. For instance, all the issues we faced in our summit. There is not a lot, if any, media talk about those subjects or some of those countries» (Sanders, Perspectives Interview, 05/02/2016).

In some cases, students shared how their ideas had shifted regarding media's role as a change agent. Val in particular seemed changed after the course. He shared «I've always been of the belief that through knowledge about the issue, it can never really be too effective and that got challenged in class. This interested

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me because it made me consider that "hey, maybe this is a problem that, as communication majors, we can affect"» (Val, Perspectives Interview, 05/02/2016). In *Media Literacy* students seem to gain insight into their role as media makers in not only contributing to discourses, but also influencing the public and policy. Bill pointed out, «By creating media, you are, in a way, able to push a part of your personality into the massive vortex that is the World Wide Web, and thus contribute to the melting pot of viewpoints, which will likely influence someone else over the course of time» (Bill, Perspectives Interview, 05/02/2016). Ultimately, the idea that people need to make media in order to cultivate balance in the digital landscapes of the twenty-first century emerged; «I think it's extremely important for people to learn how to create or produce media. It adds balance to something that is never going to be balanced...This is hugely important because the more voices you can have in media, the better» (Val, Perspectives Interview, 05/02/2016). Bringing the roles of media literacy and eco-justice education together, Muir thoughtfully added, «I think that if people were more versed in media literacy, then people would be able to create media that would help people learn more about how to take care of the environment...» (Muir, reading response, 04/20/2016). In this way, media making was connected with media literacy as an eco-justice pedagogy.

5 Discussion

As an emergent process, Greenwood, Whyte and Harkavy (1993) explain action research as «a responsibility that never is completely fulfilled» (p. 179) and «emerges of time as a process» (p. 180). In discussing my findings, I therefore seek to summarize what I learned from my first round of curricular action and describe how I plan to revise my objectives, curriculum, and pedagogical praxis to more fully enact and embody the goals of eco-justice pedagogy. In synthesis, I addressed a complex research problem by actively designing curricular structures that invited students to reframe the environment and climate crisis through the active learning about the physical demands of digital devices on people and planet. However, it is unclear to what extend students understand the underlying discourses or root metaphors regarding consumption or their own roles and responsibilities regarding media use and consumption in a digital world.

Specifically, I developed and enacted curricular structures in my class (reading response and role play event) that were successful in raising awareness regarding the impact of ICT on our physical environment and on the well-being of people across the global communities of greatest impact. In conjunction with raising awareness of conflict minerals and e-waste, selected data suggested that students gained insight into the extraction/manufacture/disposal route. However, the data did not necessarily show that students developed an ecological perspective of media and technology, or that they were prepared to engage in action in their personal or professional lives. My findings are in keeping with López'

(2013) case study findings that «only a small number [of students] indicated awareness about the ecological dimension of their devices … [and] their writing did not generate any particularly enthusiastic calls for change or cultural citizenship» (p. 11). While my findings did suggest that some students felt their role as media makers positioned them to influence public opinion, perspectives, or action, they did not specifically create any course materials that would indicate their intentions to make media to support, encourage, or advocate for ecological issues. It is clear that more curricular action is required to fully attend to the intersections between our physical world and the domains of our digital media and technology. In particular, my successive curricular actions must more fully illuminate López's (2014) four ways that media impact our experiences of living systems for students. While students seemed to grasp that alternative ecological perspectives are marginalized in the current media environment, particularly with regards to conflict minerals and e-waste, students did not demonstrate sufficient comprehension of how media promote consumptive ideologies, how media reinforce anthropocentric attitudes, or how industry and ownership concerns impact communication.

5.1 Round 2: Reflection and Planning

As I revise my curriculum for a second round of action, I plan to focus on four specific areas in order to foster a deeper learning experience. First, I need to cultivate a more robust ecological perspective of media and technology and plan to do this through a content analysis of media representations of the environment or planet in advertising. Second, it is essential to thread ecological thinking throughout the curriculum by adding lessons and materials related to consumer culture, specifically planned and perceived obsolescence and single use products. Third, I need to draft an additional scenario for the role play related to the impacts of large data centers, or «cloud computing,» on the environment. Last, students need to engage in action. To better prepare students to engage in advocacy, I plan to incorporate a media production activity for environmental justice either through counter narrative remix or the design of a Public Service Announcement.

5.2 Content Analysis

In threading ecological thinking through the curriculum, I seek to incorporate the physical environment as an equal player in conversation about technology use. As Bowers (2002) explains «an eco-justice pedagogy involves the recognition that reflection needs to be centered on how the cultural and environmental patterns connect» (p. 33). For instance, when discussing advertising, we often focus on issues of identity and representation — specifically analyzing how women, men, minorities, (dis)ability, sexuality, and gender are included (or omitted) in advertising, why, and with what effects. In considering eco-justice,

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I will extend emphasis and attention to how the environment is represented. To this end, I have selected Chapter Six from Julia Corbett's (2006) book *Communicating Nature: How We Create and Understand Environmental Messages* for inclusion in the curriculum. In conjunction with the reading, students will identify ads that represent the planet or environment (but are *not* PSAs) for analysis. For example, a popular 2017 Super Bowl ad for the Kia Niro, directed by Matthias Heijningen and starring Melissa McCarthy, cuts together multiple shots of the comedy star working to save the environment. Despite her attempts to save the whales and the icecaps, McCarthy's efforts are thwarted with detrimental ends for her physical wellbeing. The ad ends with a voice over saying «It's hard to be an ecowarrior, but it's easy to drive like one». By decoding this ad, among others, students can engage in a process of cultural analysis, deciphering the underlying root metaphors that guide our ways of thinking about the environment. With the inclusion of studies related to the environment in advertising, I can best scaffold students to further analyze and evaluate framing in other media — including in broadcast news, movies, and music — ultimately preparing and establishing ecological thinking as part of the foundation of the course in advance of the role play learning event.

5.3 Consumer Culture

A second dimension of disarticulating root metaphors and ideological structures that undergird our culture relates to consumer culture. In particular, ideologies of consumption paired with the intentional economic strategies of planned and perceived obsolescence exacerbate environmental problems. Using clips from Fox and Leonard's (2007) *The Story of Stuff*, I may incorporate learning about planned obsolescence, perceived obsolescence, and single use products in order to facilitate students' abilities to examine the economic structures related to environmental injustice.

5.4 Cloud Computing Scenario

To fully reflect the many environmental hazards of information and communication technology (ICT), I must address «cloud computing» in my class by writing another scenario for the role play event. The «cloud» is a marketing term for enormous data centers comprised of thousands of computers where our digital data is stored and managed. Increasing demands for online storage is prompting greater construction and expansion of data centers, requiring more energy to run them. A 2012 Executive Summary from Greenpeace reports the «energy-intensive nature of maintaining the cloud» has detrimental impacts on our physical environment — namely because they consume an astonishing amount of electricity, «equivalent of nearly 180,000 homes», producing about 2% of global greenhouse gas (GHG) emissions (Cook, 2012, pp. 5-9). Most of the energy used to power these data centers comes from coal and nuclear, further aggravating

negative environmental impacts from these energy sources. Incorporating a role play scenario that illuminates the realities of «cloud computing» by exposing the electricity consumption and GHG emissions of these massive data centers is essential in fully comprehending our ICT footprint.

5.5 *Action through EcoMedia Remix*

Finally, following the role play learning event, I hope to integrate a media production activity that requires students to embody ecocentric thinking and environmental advocacy in the planning, production, and dissemination of a public service announcement (PSA) or another media message. As the majority of students enrolled in *Media Literacy* are already well-versed in media making, this assignment might offer a substantial and creative challenge, empowering students as change agents. Yet, it is essential that this activity not end with the planning and production of the media message. In order to fully engage students in authentically thinking about their work as media makers, I would require the inclusion of a dissemination plan for bringing visibility to their message. This aspect of the production assignment would enhance their ecological thinking in regards to digital media in that they would need to harness the connectedness of online media in disseminating their message effectively.

6 Conclusion and Implications

In considering the implications of my research beyond the curricular action and revisions described in this study, it is important that scholars across fields reevaluate ways of being and knowing and doing in the world, in addition to the physical impacts of ICT on people and planet. In particular, I encourage teachers and scholars in multicultural education to investigate how curricula in their areas might comprise an eco-justice pedagogy in terms of examining the ICTs used in teaching and learning as value-laden devices that contain and convey ideologies of anthropocentrism and contribute to environmental injustice. In particular, media literacy may facilitate curricular development in multicultural education by preparing students to actively decode discourses and root metaphors that impact study. For instance, just as media literacy has the curricular capacity to «go green,» López (2013), we might cultivate active discussion and disarticulation of the ways information and communication technology (ICT) impact other fields, encouraging eco-justice pedagogy in a holistic manner. Early on in the excitement regarding computers in educational settings, Neil Postman (1992) cautioned, «Technological change is neither additive nor subtractive. It is ecological… one significant change generates total change [...] A new technology tool does not add or subtract something. It changes everything» (p. 18). A metaphorical shift in our pedagogical thinking is long overdue. In addressing environmental injustice, media literacy educators and multicultural educators alike

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may better prepare our students by extending our curricula to embody interdisciplinary topics and learning in a way that recognizes and responds to how the planet is framed in our mediated environment and how people are impacted by our media and technology use.

Along with the tentative course revisions described above, my study gave rise to new questions: (1) how can eco-justice pedagogy augment opportunities for students to examine the origins of our cultural beliefs and assumptions about the environment in standard curricular areas (e.g., science, social studies, art)? (2) how does media literacy as a pedagogy differ from eco-justice pedagogy? and (3) What other classroom strategies may illuminate these issues as part of the larger goals of multicultural education? While I may engage in examination of these questions in my next cycle of action research, they are applicable to scholarship in other disciplines and attention to them may help illuminate effective curricular strategies or reforms. To live in a constructed media environment requires that we be continually vigilant to our role in co-creating our media ecosystems and mindful of how our increasingly digital environment imprints and impacts both our ideological and physical worlds.

References

Bigelow, B., & Swinehart, T. (2014). *A people's curriculum for the Earth: Teaching climate change and the environmental crisis*. Milwaukee, WI: Rethinking Schools.

Bowers, C. A. (2002). Toward an eco-justice pedagogy. *Environmental Education Research*, *8*(1), 21-34.

Brown, R. H. (1989). *A poetic for sociology: Toward a logic of discovery for the human sciences*. Chicago: University of Chicago Press.

Cook, G. (2012). *How clean is your cloud? Catalysing an energy revolution*. *Greenpeace International Executive Summary.* https://storage.googleapis.com/p4-production-content/international/wp-content/uploads/2012/04/e7c8ff21-howcleanisyourcloud.pdf [Accessed on 03/06/2017].

Corbett, J. B. (2006). *Communicating nature: How we create and understand environmental messages*. Washington, DC: Island Press.

Cortés, C. E. (2000). *The Children Are Watching: How the Media Teach about Diversity. Multicultural Education Series*. New York, NY: Teachers College Press.

Edwards, C., & Willis, J. W. (2014). *Action Research: Models, Methods, and Examples*. Charlotte, NC: Information Age Publishing.

Elliott, R., & Timulak, L. (2005). Descriptive and interpretive approaches to qualitative research. In J. Miles, & P. Gilbert, J. Miles, P. Gilbert (eds.), *A handbook of research methods for clinical and health psychology* (pp. 147-159). New York, NY: Oxford University Press.

Feldman, A., Paugh, P., & Mills, G. (2004). Self-study through action research. In J. Loughran, M. L. Hamilton, V. K. LaBoskey, & J. Russell (eds.), *International handbook of self-study of teaching and teacher education practices* (pp. 943-977). Dordrecht: Kluwer Academic Publishers.

Fox, L., & Leonard, A. (2007). *The Story of Stuff* [Video]. Berkeley, CA: Free Range Studios. https://storyofstuff.org/ [Accessed on 03/06/2017].

Gettleman, J., & Bleasdale, M. (2013). The Price of Precious. *National Geographic*. https://www.nationalgeographic.com/magazine/2013/10/conflict-minerals/ [Accessed on 03/06/2017].

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New Brunswick: Aldine Transaction.

Greenwood, D. J., Whyte, W. F., & Harkavy, I. (1993). Participatory action research as a process and as a goal. *Human Relations*, *46*(2), 175-192.

Heijningen, M., & Taylor, D. (2017). *Hero's Journey* [Television Commercial for Kia Niro]. USA: MJZ. http://adage.com/videos/kia-heros-journey/1298 [Accessed on 03/06/2017].

Hobbs, R. (1998). The seven great debates in the media literacy movement. *Journal of communication*, *48*(1), 16-32.

Kellner, D., & Share, J. (2005). Toward critical media literacy: Core concepts, debates, organizations, and policy. *Discourse: Studies in the cultural politics of education*, *26*(3), 369-386.

Kellner, D., & Share, J. (2007). Critical media literacy, democracy, and the reconstruction of education. In D. Macedo & S. R. Steinberg (Eds.), *Media literacy: A reader* (pp. 3-23). New York: Peter Lang Publishing.

Kember, D. (2000). *Action learning, action research: Improving the quality of teaching and learning*. London: Routledge.

Lakoff, G. (2010). Why it matters how we frame the environment. *Environmental Communication*, *4*(1), 70-81.

Leach, A. M. (2017). Digital Media Production to Support Literacy for Secondary Students with Diverse Learning Abilities. *Journal of Media Literacy Education*, *9*(2), 30-44.

López, A. (2013). Greening A Digital Media Culture Course: A Field Report. *Journal of Sustainability Education, 12.*

López, A. (2014). *Greening media education: Bridging media literacy with green cultural citizenship.* New York, NY: Peter Lang.

Lowenstein, E., Martusewicz, R., & Voelker, L. (2010). Developing Teachers' Capacity for EcoJustice Education and Community-Based Learning. *Teacher Education Quarterly*, *37*(4), 99-118.

Martusewicz, R. A., Edmundson, J., & Lupinacci, J. (2011). *EcoJustice Education: Toward Diverse, Democratic and Sustainable Communities*. New York, NY: Routledge.

ISSN 2038-3002 – Vol. 10, n. 1, anno 2019, pp. 69-90

National Association for Media Literacy Education (2010). *Media literacy defined*. https://namle.net/publications/media-literacy-definitions/ [Accessed on 03/06/2017].

National Association for Multicultural Education (2003). *Resolution and position papers: Definition of multicultural education.* https://www.nameorg.org/name_position_statements.php [Accessed on 03/06/2017].

Ottaviani, J. (n.d.). *E-waste Republic.* http://interactive.aljazeera.com/aje/2015/ewaste/index.html [Accessed on 03/06/2017].

Postman, N. (1992). *Technopoly: The surrender of culture to technology*. New York, NY: Vintage Books.

Puckett, J. (2011). *A place called away*. http://archive.ban.org/library/Away-IsAPlaceEssayFINAL.pdf [Accessed on 03/06/2017].

Scott, K. A., Sheridan, K. M., & Clark, K. (2015). Culturally responsive computing: A theory revisited. *Learning, Media, and Technology, 40*(4), 412-436.

Scott, K. A., & White, M. A. (2013). COMPUGIRLS' Standpoint: Culturally Responsive Computing and Its Effect on Girls of Color. *Urban Education*, *48*(5), 657-681.

Torres, M., & Mercado, M. (2006). The need for critical media literacy in teacher education core curricula. *Educational Studies*, *39*(3), 260-282.

Wonjin, J., Jang Hee, I., Ananda Harianto, R., Ji Hyun, S., Hyebin, L., Heon Ju, L., & Myoung-Woon, M. (2016). Introduction of 3D Printing Technology in the Classroom for Visually Impaired Students. *Journal of Visual Impairment & Blindness*, *110*(2), 115-121.

Appendix

Perspectives in Media Literacy Interview Questions

- Describe something specific that we did in class that was memorable or unexpected and explain why.
- If you were on your way to class and someone asked you, «What is media literacy anyway,» how would you describe it for them?
- Describe a piece a media you created or consumed recently and your thoughts about it or experiences with it.
- Describe one aspect of your life that is influenced by media that you didn't think about before and now you do. Use details and be specific about how your thinking has changed.
- How has your understanding of literacy been impacted by our class work and activities?
- What are some reasons to study the media from a literacy perspective?
- What is the role of media in regard to individuals, societies, and cultures?

– How does media literacy impact your career goals and aspirations? (If there is no impact, discuss why you feel that way.)
– To what extent do you feel it is important for people to learn how to analyze and evaluate the media that surrounds them?
– To what extent do you feel it is important for people to learn how to create or produce their own media, and to disseminate or share it?
– How do people learn how to analyze, evaluate, or create media?
– Other thoughts or comments? Questions for me?
– This last question is the kick-off for what we will do in our last class. Develop 3-6 interesting interview questions that our class may use to conduct interviews with each other.

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