

Curriculum for Climate Justice:

Transforming Environmental Knowledge through Socially Engaged Art Practices

Leila Refahi

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By: Leila Refahi

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_____ Examiner
David Pariser

_____ Thesis Supervisor(s)
Lorrie Blair

Approved by _____
Juan Carlos Castro Chair of Department or Graduate Program Director

Dean *Annie Gérin*

ABSTRACT

Curriculum for Climate Justice:

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Leila Refahi

By examining the interactive tools of Socially Engaged Art (SAE) and artmaking in dialogue, this thesis explores how transformational environmental knowledge can be developed in a learning environment focused on adult education. Using Design-Based Research (DBR), with the participation of six adults from different backgrounds, I designed and carried out four sessions of educational workshops on the following themes: Environmental Indifference, Climate Change, Animals, and Environmental Justice. I designed the workshops to provide a shared space for participants to create, learn, converse, and engage freely in the research process. This research illuminates how an integrated curriculum for Art Education, using Socially engaged art methods and an environmental approach, can provide opportunities to re-direct our thinking and learning and help us to re-imagine our connections with the environment.

Keywords: Transformative learning, Socially Engaged Art, Climate justice, Environmental Awareness, Conversation

Dedication

I dedicate this dissertation with all my love to the children of today who inherit the earth. May you enjoy the beauty, wonder, and grace of this world and embrace mother earth with all your passion.

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Chapter 1: Introduction

Introduction

“If success or failure of this planet and human beings depended on how I am and what I do... HOW WOULD I BE? WHAT WOULD I DO?” R. Buckminster Fuller

Indeed, how will each of us behave if we perceive these questions deeply? Given the environmental challenges we are facing nowadays, the need to transform human attitudes toward nature and the earth is more apparent than ever. I assume the most effective procedure to make this alteration can be “Pedagogy,” and perhaps innovative studies in education can lead to usable knowledge about and reform of instructional practice. Due to the complexity of learning, teaching, and knowledge production concepts, I used art to improve communication and synthesis of complex issues in this study. Combining arts into the research constructed new integrative narratives by the active engagement of participants from different cultural contexts.

I grounded my study on a Design-Based Research methodology framework. By designing and conducting art workshops with Socially Engaged Art methods, I provided a shared space for participants to create, learn, converse, and engage freely in the research process. Since art can make change intuitively and cognitively, and emotionally, it can bring human consciousness and behavior closer together. According to Elliot Eisner (2002), the actual value of art education is that it can transform consciousness.

By conducting this study, I investigated the function of art education, creative practice, and dialogue-making in the learning setting and used these capacities to create experiences to transform environmental awareness for the six adults who participated in my study.

Background/ My Artistic Adventure

We are at a critical historical juncture amid an environmental crisis that threatens life on earth (Clarke, 2012; Hansen, 2009; Orr, 2004). Climate justice is an essential and fundamental matter. The destructive impact of human activity (Archer, 2009) on environmental pollution (Heinberg, 2007), climate change (Hansen, 2009), and species extinction (Eldredge, 1995) are now evident all over the earth. The year 2020 began with the echoes of several alarm signals links to the environmental crisis that have appeared worldwide. The devastation caused by forest fires in multiple countries, the devastating locust attack in India, and the global health crisis caused by the Coronavirus, reveal the need for profound change in the interpretation of the human role on earth in relationship with other species.

Since 2012, as a painter, I have focused on environmental issues and endangered animals. These concerns appeared in my art practices influenced by the expansion of urbanization and its dire consequences on deforestation and desertification in my country, Iran. With my paintings, I attempted to draw attention to these issues (Figure 1). In 2017, I travelled to Malax, Finland, to attend an art residency program in the Malakta art factory. There were several fox fur farms around Malax. I decided to do a photography project about this industry. However, a part of the local population was engaged in this profession, and I was not permitted to enter the fur farms spaces and photograph them. So, I cancelled this project with my residence place officials' advice to avoid causing any annoyance.

During my residence in Malakta, I was invited to a school in Vaasa to give some art workshops. There, I conducted an origami installation project with the participation of the students. I titled this project *Birds' Farm*, and it was a metaphor for the freedom of captive animals in the leather and fur industry. In the project process, as a teacher, first, I gave the students information about animal rights and the fur industry, installation art, and instruction

Figure 1

Refahi, L. (2014). هیدروکلاستی-وقت استراحت (Hydroclastie-Timeout) [oil on canvas, 140x200 cm]



on how to make an origami bird. Then I accompanied them to make the origami birds, choose the location, and design the installation process. The design that students installed the birds was notable. The installation movement was towards the outer space and light, which, according to students, symbolized freedom and rescue for them (Figure 2).

After that, I implemented the same projects in Germany (Figure 3) and Iran (Figure 4). Each session came with something new; how the children perform and interact, their eagerness to create artwork, and their conversations after work amazed me. During the last project in Yazd, Iran, one of the children took off his leather shoes and told his friends, “I can no longer wear these shoes” (Personal communication, July 31, 2019).

Figure 2

Refahi, L. (2017). مزرعه پرندگان (*Birds' Farm*). Finland.



I can consider this project a turning point in my work as a teacher and artist. These workshops raised new ideas and many questions for me, for example, the questions about the definition and function of art in social justice, the audience role in the artwork's definition, the pedagogical potential of art, and several other questions. Painting alone could not answer these questions. I found active interaction with the audiences more effective and needed to know more about the concept of education in the contemporary world.

It is essential that humans' activity and presence on earth be redefined so that living conditions continue (Berry, 1999). The urgent need to raise environmental awareness has long been one of the most critical concerns discussed by environmental researchers and educators, who emphasized the necessity for a deeper connection with nature to address the environmental crisis and promote learning (Orr, 2004; Gruenewald & Smith, 2008; Palmer, 1997, 1998). To change the ecological direction and connect to what earth researcher and cultural historian Thomas Berry called the “Earth community,” we need a cosmological shift and a new perspective for education (Clarke, 2012; Orr, 2004; O'Sullivan, 1999; Berry, 1988, 1999).

Figure 3

Refahi, L. (2017). مزرعه پرندگان (*Birds' Farm*). Germany.



When society's dominant culture is influenced by consumer culture (Orr, 2004), engaging learners with environmental knowledge is a challenge for educators. Despite the pervasiveness of environmental education in the curriculum, it has failed to provide a way to perpetuate the sustainability culture and fill the emotional vacuum created by the separation of people from nature (Berry, 1988; Orr, 2004; Sauve, 2009). In this situation, art and art education can be centered as an advantageous and productive method for engaging learners in an interactive dialogue, challenging stereotypes and norms, and changing world perception. Maxine Greene (1995), the art theorist who supported aesthetic pedagogy, defines the experience of artistic practice and understanding the meaning of these experiences to connect learners with/to the world. Greene posits that the arts provide a context to engage in a co-creative dialogue with nature and culture. Artistic activities enhance environmental sensitivity, inquiry, creativity, and imagination. This process can transform thinking and learning and help rebuild connections with biotic communities of which we are a constituent part.

Figure 4

Refahi, L. (2018). *مزرعه پرندگان (Birds' farm). Iran*



Research Questions

The central question that has arisen through my experiences and studies is both pedagogical and pragmatic: How can creative responses to environmental issues provide spaces to create ecological knowledge through the artmaking in dialogue?

This study also allowed me to ask these sub-questions: How can involvement in art activity transform environmental knowledge in people? What are the potentials of engagement, interaction, and conversation in this understudied site? How can art activities contribute to making participants close to the biophysical environment?

Participants and I worked together toward responding to these questions to develop a curriculum and plan that involve socially engaged art to create environmental awareness.

Chapter 2: Theoretical Framework

Introduction

Education is a potent tool in shaping people's attitudes and worldviews. As environmentalist and writer, David W. Orr (2004) describes:

Much of what has gone wrong with the world is the result of education that alienates us from life in the name of human domination, fragments instead of unifies overemphasizes success and careers, separates feeling from intellect and the practical from the theoretical, and unleashes on the world minds ignorant of their own ignorance. (p. 17)

Psychologist, writer, and researcher Ralph Metzner (1995) points to a kind of collective amnesia that accrued in humanity and resulted in forgetting attitudes and perceptions and empathizing with non-human life, respect, and humility concerning the complexities of the natural world. Difficulties that we face today arose from consumerist lifestyles, which can make current and future generations live (or will live) in poverty caused by globalization, climate change, and the exploitation of other animals. Despite these conditions, often, instead of conducting a more unified approach with nature, Environmental Educators appoint management and control of nature (Leopold, 1948) through "technological sustainability" (Orr, 2004).

Real transformation is possible, but it does not happen overnight. The approach I developed in this study involves a more holistic and less managerial approach. To provide a theoretical framework, I applied some insights about transformative learning theory and art-based environmental education. Through my workshop, I aimed to engage and activate the participants' intellect, emotions, imagination, and body in the art workshops to provide more useful and comprehensive learning that transforms knowledge about ecology and the environment.

Transformative Learning

Transformation Theory explains how transformative learning occurs, what transformative learning is, and how it develops. The transformation points to the process of questioning previously uncritically assumptions, values, beliefs, and perspectives. It results in an irreversible shift in a person's perspective towards discernment, inclusiveness, openness, acceptance (other ideas), adaptability, and reflexiveness (Mezirow, 1978, 1991, 2000; Canton, 2006).

In *Transformative Dimensions of Adult Learning*, Jack Mezirow (1991), sociologist and educator, developed a theoretical map of adult meaning-making structures. In this map, he describes two structures called "meaning schemas" and "meaning perspectives." The meaning schema is a belief or basic idea a person might have about how something ought to work or does work. The meaning perspective is a more fundamental belief than a meaning schema. It is the individual's structure of belief or assumption about how the world works (Mezirow, 1978, 1991, 2000), which "selectively shapes and delimits perception, cognition, feelings, and disposition by predisposing our intentions, expectations, and purposes" (Mezirow, 2000, p. 16). In *Learning as Transformation*, Mezirow (2000) uses more recognizable semantic equations for the meaning perspectives such as a "habit of mind," a "perspective," a "concept," an "attitude," a "way of thinking," an "identity," a "worldview," and a "point of view." The theory of transformative learning is central to this thesis, suggesting a re-thinking of our place in nature as a part of the biotic communities¹.

All learning calls for change, but not all learning is transformative (Mezirow, 1991). According to Mezirow, the keys to bringing about transformative learning are the "disorienting dilemmas," "critical reflection," and "rational discourse." Applying or experiencing one or all

¹ The biotic community is a group of organisms that live together and interact with each other within an environment or habitat.

these elements may lead to transformative learning. Transformative learning occurs when an adult engages in activities that cause or allow them to see a different world view, then integrate it into and enlarge their own worldview (Mezirow, 1978, 1991, 2000). Throughout this study, I inquired if transformative learning could happen due to a deepened understanding of knowing the world, conscious connection with nature, and learning to be present in what Berry (1988) calls “the universe story.”

Changing ecological knowledge needs to transform our narrative and worldviews. Mezirow (1991) affirms that meaning exists within ourselves and is achieved and validated through experience and interaction. Transformative learning theory assumed that individuals understand and interpret experiences in their own way, and worldviews are often influenced by perceptions formed by culture and society. Reciprocally, transformative learning is the process of exploring, examining, and reviewing these perceptions (Taylor & Cranton, 2012); it could be a gradual, incremental process (Mezirow, 2000). In this approach, the goal is not only individual but also social transformation. According to art educator Edward W. Taylor (2008), “people are as subjects, not objects, who are constantly reflecting and acting on the transformation of their world so it can become a more equitable place for all to live” (p,8).

Transformative learning emphasizes the existential context of human development within a broader narrative of the universe’s evolution as a whole (O’Sullivan, 1999). This approach is indebted to Berry’s theory and seeks to bring its purpose, the “Great Work,” to the fore. Accordingly, the universe is a communion of subjects, not a collection of objects. The idea is to teach the universe story, to re-frame the human story within the connection setting to nature as a part of the earth (1988, 1999). This approach is part of shifting from the mechanistic and consumer paradigm to a sustainable and ecological worldview with a comprehensive vision that includes the individual, relational, group, institutional, societal, and global viewpoints (O’Sullivan, 1999; Cranton, 2006).

Although the purpose is to transform the knowledge, it must be noted that transformation is voluntary on behalf of the learner. We cannot specifically teach and claim what kind of learning experience will indeed work. In this process, if transformative learning be mandatory or learners are forced to accept the teachings, the results will be more towards brainwashing and indoctrination than learning (Cranton, 2006). Having this critical point in mind, I used some methods for fostering transformative learning in my study, which there is consensus or at least widespread support about them in literature. The essential feature of this method is the act of critical reflection. The different perspectives are observed, reconsidered, and transformed (Mezirow, 1997; Taylor, 2008). Another significant feature is the conversation. Effective participation in the conversation is necessary for meaning-making and validates how understanding is formed (Mezirow, 1997; Cranton, 2006). In this theory, the teacher's role is often replaced with the facilitator. Educators remove themselves from the authority position and interact with the students as co-learner. The purpose is to create an environment for learners to freely criticize, reflect, and discuss their ideas with others. (Mezirow, 1997; Cranton, 2006)

According to Taylor and Patricia Cranton (2013) professor of adult education, experience, empathy, and desire to change are crucial and influential in transformative learning theory. In this regard, they raise questions that having them in mind will help me strengthen the field of transformative learning in my study. These questions include:

How does experience unfold in the context of transformative learning? How can we foster new experiences that have the potential to lead to transformative learning? How do educators establish empathic relationships with learners? Why do some people revise their perspectives and others not? (p43)

To find answers to these questions, I employed an art-based environmental education approach.

Art-Based Environmental Education

To be more explicit in my research and bring art and environmental education together in one undertaking, I situated this study in the contemporary arts-based environmental education approach (hereafter abbreviated as AEE).

Finnish art educator Meri-Helga Mantere first developed this specific educational approach in the 1990s based on an artistic perspective. AEE does not simply integrate art to provide aesthetic experiences; instead, art is the main point of connection to nature (1995a). To Mantere (2004), the separation from nature, abusing it, and the sense of control result from seeing nature as an object. In this situation, it is necessary to go back to the basics of the process and skill of perception, which helps differentiate action that is the starting point for change. She puts a high value on art in environmental learning and believes that by artistic activities, the sensitivity and responsibility to the environment can be raised (Mantere, 1995a). Through the artistic process, she suggests that humans' connection with nature can develop in more profound levels of mythological, metaphorical, and psychological that lead to achieving deeper meanings and connections (1992). Mantere (1995b) clarifies between seeing art as a tool of environmental education, art itself as a form of environmental education, and environmental education as a form of art. Each option can lead the content and activity differently. I situated my work on the second level: art as a form of environmental education. For me, art is not “a tool” but instead is an inherently valuable activity.

In supporting the importance of art education in raising environmental knowledge, Mantere argues that comprehending learners' experiences, emotional expressions, and personal processing of ideas are at the core of art education; accordingly, the aesthetic practice could be a precious contribution to experiential learning in environmental education. In artistic practices, learning starts with personal experience and takes place by doing. Art education allows learners to engage with their experiences and observations of the environment through artistic activity

(2004). In agreement with this opinion, artist and educator Timo Jokela (1995) states that the visual arts can offer elements to the EE that other fields lack. In his view, art can increase awareness by creating new ways of observation and experience. While our previous learning experiences are frequently visible in observing and describing our environment, visual art can be understood as the history of evolving and changing perception schemes. Jokela (1995) finds an educational task in the “environmental world” and the “art world.” By studying and defining environmental art, he suggests four types of exercises and demonstrates environmental art as a method of EE. Simultaneously, these methods are committed to environmental art, a fundamental part of art education, a way for developing environmental consciousness, and an environmental education method. The categories are:

- Exercises on focusing observations and more sensitive perception.
- Exercises which expose natural phenomena to attention.
- Exercises aimed at changing the environment’s observation.
- Exercises that question environment and human limits.

At present, there is no established definition of AEE. In the following, by examining the studies of teacher-researchers of AEE, I try to present a clearer view of this method’s application.

Canadian eco-art educator and researcher Hilary Inwood and bioinformatics scientist Ryan W. Taylor (2012) bring together elements from the more established visual art education fields, science education, and environmental education to plan an “environmental art education” method. Educators integrate knowledge, pedagogy, and narrative from the visual arts, sciences, outdoor education, and environmental education in this transdisciplinary learning process. They expand the awareness of and engagement with environmental concepts such as sustainability, biodiversity, interdependence, systems-thinking, and conservation.

Inwood and Taylor (2012) suggest seven tips to proceeding with this learning method more successfully.

- Take an exploratory approach and create unique interdisciplinary assignments.
- Lay the clear groundwork for introducing new material.
- Give opportunities to create and artmaking.
- Provide space for collaborative activities to foster peer transfer of critical concepts.
- Get out of the class to experience the works of art in their situ.
- Learn deeply about a few environmental issues rather than a broad range of issues.
- Encourage reflective writing to create a context for pondering.

Based on his personal experience and studies, Jan van Boeckel, AEE scholar and educator, provides some of the critical competencies essential for facilitating AEE. According to Boeckel, by improvising and introducing novel elements in practices, teachers can engage students in unpredictable activities, bring curiosity, and igniting their creative energies. This improvising may be assumed as an unstructured artmaking group activity. This approach helps the teacher avoid usurping the learning space and facilitates a conducive context for practitioners to act freely, experience creatively, provide meaning to their observations, and ultimately learn through their own lived experiences. In furthering this contributory learning environment, teachers must foster a respectful attitude between students and encourage them to hold back personal judgments of “good and bad” (2017). By engaging in art activities, participants can, at any moment, touch aspects of their inner being and can be confronted with something that stirs their emotions in unexpected ways. Boeckel (2017) suggests that, in these situations, teachers need to avoid act as therapists and psychologizing the participants and only discuss the artwork, not the art maker.

In their article, *Environmental Education through Art*, Researchers Iosif Fragoulis and Marios Koutsoukos (2018) emphasize the unique impact of art in facilitating education and

present the new forms of utilizing artworks in environmental education for adult learners. The study describes two works of art that they consider helpful tools in environmental education. The first work was created by Italian-Finish environmental artist Marco Casagrande, entitled “*Sandworm*.” It is an enormous sculpture made completely using natural materials, like dried leaves, branches, and willow bark, aiming at interacting and being part of the natural environment. The second work was Marta Thomas’s sculpture named “*Earth Tear*.” Thomas made this sculpture with glass bottles found on the beaches of California. These bottles joined together to create the shape of a tear (2018).

Planning to use works of art during the teaching sessions, the teacher interconnected them with the corresponding thematic sections of the schoolbook and transformed them into teaching tools for environmental education. These two works became the basis for observation, questioning, brainstorming, and conversation. During the sessions, learners discussed critical questions about the environment, natural resources using climate change, landfills, and social conflicts. Using works of art for educational objectives is a modern educational practice that suggests multiple benefits besides developing critical thinking and aesthetic perception. By observing and discussing works of art, the learners improve their stochastic ability, recognize relationships, and interpret messages; simultaneously develop their creative thinking through imagination and inventiveness (Fragkoulis & Koutsoukos. 2018).

Aiming to develop ecological knowledge, in this study, I applied the theory of Arts-based environmental education in an adult-focused learning setting, using the interactive tools of socially engaged art. In the next section, I will explore the points and suggestions that socially engaged art procedure provides.

Socially Engaged Art

Creative responses require active engagement. As a participatory approach, socially engaged art (hereafter abbreviated as SEA) is an attitude or approach that seeks to add diverse

forms of art and storytelling to develop research activities in action (Cornwall and Jewkes, 1995). This method's characteristic "is its dependence on social intercourse as a factor of its existence" (Helguera, 2011, p. 2) and the facilitation of dialogue between communities (Bishop, 2012; Kester, 2004). This method requires a high degree of reflexivity and is not without obstacles and pitfalls (Pain & Francis, 2003). From a pedagogical viewpoint, such approaches are enacted to evoke thought and discover something different in the process; and represent potentialities for creating artistic responses as symbolic and genuine social actions (Helguera, 2011).

By describing their SAE projects, Rachel Clarke, Jo Briggs, Ann Light, and Peter Wright (2016) propose that this approach can be recognized as a set of meta-approaches that emphasize interpersonal and relational connections on a human scale. This approach potentially makes changes in deep-seated relational aspects and creates lasting benefits for those involved. They argue that SAE is a continual questioning process through improvisation, expediency, and adaptation, which does not rely on pre-formed and easy ways that give optimal results for the inquiry (Clarke et al., 2016).

According to Clarke et al. (2016), SEA can support studies concerned with cultural issues and social structures and raise awareness and knowledge. As an example, in 2014, Professor of Art Education, B. Stephen Carpenter, conducted a participatory performance at Edinboro University to draw attention to the global water crisis. This activity expanded beyond the production of art objects and created a dialogue to integrate artistic practices, pedagogical processes, and creative potentialities following a more just world (Schlemmer et al., 2017). The conversations shaped during Carpenter's performance were notable and varied from technical issues and skills to the water crisis and continued back into the classroom, throughout social media, and at following meetings (Schlemmer et al., 2017). This project provided a participatory space for students and other participants to experience problem-solving

techniques, the power of collaboration, and the constant influence of creative action. By coordinating creative production, social concepts, and educational methods, SEA can redefine art education spaces and enable students to respond to social issues experientially, kinesthetically, and intellectually and support their rights (Schlemmer et al., 2017). Carpenter's art project inspired me, and I took from what he did to develop my workshops during this study.

In particular, SEA can expose audiences to other ways of thinking about local issues, leading to considerable awareness of and motivation to act on behalf of the community (Song 2014). In 2017, environmental researchers Emma L. Johansson and Ellinor Isgren conducted research in Kilombero Valley, Tanzania, about the land-use change. To better understand the effects of the changes on local people's lives and establish a more participatory methodological approach, they used participatory art combined with qualitative methods. Accordingly, local participants participated in group discussions, painted based on these discussions, and interpreted them. Thus, participants contributed to data and interpreted it (Johansson & Isgren, 2017). As a collaboration medium, the paintings made it possible to stimulate the local people's creative thinking and visualize social environment changes perceptions. After this study, the paintings were used as documents and resources in the exhibition and events to announce local concerns.

Researcher Meghan Robidoux and professor in urban administration studies Jason F. Kovacs (2018) discuss applying one of the SAE forms, public art, in an environmental-focused educational capacity. They based their study on the finding from in-depth interviews with members of three not-for-profit art organizations active in this field. According to Robidoux and Kovacs, this approach has excellent potential to educate and increase awareness within communities and maximize environmentally focused messaging effectiveness. With a different method than strictly educating about sustainable issues, SAE can connect participants in the research process to the concept of their activity, their feelings, and their motivations. They also

added that although academics and artists acknowledge the benefits of SAE art and its different forms in provoking public thoughts, more research is needed to address how to implement this method better and evaluate its effectiveness as an educational tool in the public realm.

Chapter 3: Methodology

Design-Based Research

To develop a flexible and balanced procedure (Barab and Squire, 2004) for investigating how we can create a more ecological society through artmaking in dialogue, I conducted my study by employing design-based research methodology (hereafter abbreviated as DBR). Design-based research is an emerging and systematic methodology for studying learning in real-world settings, aiming to develop educational practices (Design-Based Research Collective, 2003; Barab & Squire, 2004; Wang & Hannafin, 2005). It was first introduced in 1992, in articles by Ann Brown (1992) and Allan Collins (1992) as the term “design experiments” and developed as a way to address complex problems in real contexts, test and refine educational designs, and define new design principles for learning (Reeves, 2000; Collins et al., 2004; Wang & Hannafin, 2005).

Given that DBR addresses problems that detract from the life quality in society, particularly the problems associated with learning and human development, Thomas C. Reeves, Jan Herrington, and Ron Oliver (2005) recognize it as a socially responsible approach. They explain that there is significant social relevance in instructional technology research studies centered on improving education. In this regard, they suggest that the design-based research approach requires that researchers investigate critical educational problems instead of conduct research for its own sake; and determine a pedagogical outcome and create learning contexts that discuss it. Researchers also need to give particular consideration to supporting human interactions and nurturing learning communities.

DBR’s foundation is based on the partnership and interaction between the participants, the researcher/teacher, and materials in a determined setting (Design-Based Research Collective, 2003; Barab & Squire, 2004; Wang & Hannafin, 2005). In this methodology, the term intervention points to the object, activity, or process intended as a potential solution to

discuss the identified query. Professors Sasha Barab and Kurt Squire acknowledged that learning, cognition, and knowing are undeniably co-constructed and cannot be treated as detached concepts or processes. Cognition does not refer to an entity located only within the individual thinker. Still, it is a process that distributes simultaneously across the learner, educator, the knowledge environment, and the learning activity that is implemented (2004). In this study, by engaging in the research partnership across multiple settings, the participants and I attempted to determine and bridge the gap between art-based environmental education theory and its practical application in the learning environment. According to the Design-Based Research Collective, this process can bring out a meaningful change in practice contexts and improve an intervention's significant components (2003).

American cognitive scientist and Professor of Learning Sciences Allan M. Collins (1992) suggests that educational design interventions need to be rooted in and improve learning theories. Hence, as I noted earlier, my study is rooted in transformative learning theory and art-based environmental education theory. Design-based research in education is not limited to developing a particular product. However, the purpose is to explore the nature and concept of learning extensively, refine learning theories, and eliminate the lack of meaningful educational research impact in educational systems. (Design-Based Research Collective, 2003; Wang & Hannafin, 2005; Jacobsen, 2014). In this case, the creative and theoretical objective was to find innovative ways to enhance participants' ecological sensitivity to raise awareness of environmental issues. Moreover, this research aimed to develop a curriculum that teachers can use to create environmental knowledge. The research processes are flexible, and its practicable objective will continually reify through the ordered use of its methodologies and research processes (Barab & Squire, 2004; Wang & Hannafin, 2005).

Challenge and Limitations of DBR

As design-based research is a relatively new methodology, I needed to consider some challenges in conducting my study.

The research could be affected by my interests, opinions, and preferences; therefore, I was aware of my biases. As a DBR researcher, I had close contact and communication with my participants; consequently, bias and subjectivity might affect or inspire my work in the critical steps, including determining the research question, data sources, and collecting and interpreting data. It was necessary for me to consciously avoid any biased observation, wishful thinking, and personal interest. Researchers Syahidatul Hajaraih and Peter Kuchinke (2012) argue that the researchers need to stick to the facts and objectives in implementing the research to be unbiased in the process. As well they must refrain from making any assumptions about the result without evidence. Accordingly, researchers regularly find themselves in advocate and critic's dual intellectual roles (Design-Based Research Collective, 2003).

DBR methodology is based on the partnership of participants treated not as subjects but as co-participants (Barab & Squire, 2004). Since most DBR requires long-term engagement and, sometimes, involves more than one individual or group, this participation causes some challenges. Participants need to be committed to the research, be informed about the study's importance, goals, and meaningfulness, and have collaborative and productive cooperation (Hajaraih & Kuchinke, 2012). For the success of the innovation and the knowledge achieved from the study, researchers need to be able to sustain the partnership and bring participants' different expertise and experiences into the research design process (Design-Based Research Collective, 2003; Collins, Joseph, & Bielaczyc, 2004).

Uncontrollable variables are another challenge of DBR. Most experimental research discusses a single variable such as learning, skill, or content. In contrast, in DBR research contexts, most variables are uncontrollable, appearing as a limitation. Collins, Joseph, and

Bielaczyc (2004) suggest that the variables are essential to assess and determine the research's success. According to them:

The three critical types of independent variables are: (a) climate variables such as engagement, cooperation, risk-taking, and student control, (b) learning variables such as content knowledge, skills, dispositions, metacognitive strategies, and learning strategies, and (c) systemic variables such as sustainability, spread, scalability, ease of adoption and cost (p. 36).

Collins, Joseph, and Bielaczyc (2004) also listed the contextual variables that can determine the success of an innovation: “(a) setting, (b) nature of the learners, (c) required resources and support for implementation, (d) professional development, (e) financial requirements, and (f) implementation path” (pp. 37–38).

I faced some challenges and having these variables in mind helped me manage them for proceeding with the workshops more coherently. The first challenge was that it was not possible to conduct the workshops in person due to the restrictions of the Covid 19 pandemic. It created limitations on the procedure of holding the sessions, presenting the educational materials, and reducing participants' interaction and involvement in the study process. The second variable was related to the time difference. Participants in this study were from three different continents, and in the first weeks, we had some challenges in determining a proper time for our meeting. The other challenge was that participants did not know each other before. It caused the interaction and dialogue between them to diminish in the first session, while the conversation was an essential part of this study. The other variable was related to the educational content and the right choice so that participants can easily engage with them.

Data Collection

Endeavouring to increase the objectivity, validity, and applicability of this research (Wang & Hannafin, 2005), I gathered multiple forms of data such as interviews, participants'

artworks, observation, field notes, and audiovisual recordings of the Zoom meetings containing the conversation between participants (Creswell, 2013).

I used pre-project and post-project one-on-one interviews, which helped uncover some evidence of the transformation of participants' awareness of environmental and ecological issues following the participation in the workshop. The interviews lasted about 30 to 40 minutes. I designed interview guides using in-depth approaches described by author Van Den Hoonaard. In-depth interviews let me explore participants' experiences, feelings, attitudes, and descriptions of the workshops that were meaningful to them and collect unexpected data (Hoonaard, 2012).

For the pre-project interview, I used pre-determined but open-ended questions. These questions provided me with rich and relevant data for my study since they helped participants freely share their personal experiences about dealing with the environment and the natural world.

In the post-project interview, I created a friendly conversation with the participants because they needed to be comfortable expressing their thoughts and opinions and talk about the process they went through and its effects without feeling to be judged. So, I created a list of areas that I wanted to cover but at the same time let the participants determine the discussion's direction.

During each virtual meeting, participants had group conversations and shared their experiences and perceptions. I gathered an essential part of the data during these sessions through observation and field notes. The structure of these meetings was flexible, and I was an active listener to identify ideas, potentially valuable concepts, and the strengths and weaknesses of each session for designing the next session's practice (Hoonaard, 2012). As a facilitator of these meetings, I had minor interference in the discussions and only intervened sometimes to not let conversation deviate from the track. It helped me to discover participants' understanding

of the practices more precisely. After finishing the meetings, I reviewed the audiovisual recordings at least twice to gather more detailed data.

Participants' artworks were the other important source for collecting data. These data were a valuable resource of participant's activities, observations, experiential stories, and creative expression. They also revealed the differences and similarities of participants' views of their surroundings and their encounter with the subject, which effectively helped me design the following sessions' practices.

Data Analysis

In this research, I performed data analysis immediately, continuously, and retrospectively on two levels. At the first level, after collecting each workshops' information, such as notes from observations in virtual meetings that used to make specific revisions in the design; and the second level after the completion of the project where the data of the first stage were distilled and used to explain the design and to construct design principles (Wang and Hannafin, 2005).

To engage in the meaning-making of the data, I used methods defined by Creswell (2013):

I analyzed the qualitative data working inductively from particulars to more general perspectives to recognize codes, categories, themes, or dimensions. I then worked deductively to gather evidence to support the themes and interpretations. I worked through multiple levels of abstraction, starting with the raw data and form broader and broader categories. Next, I "layered the analysis into increasing levels of abstractions from codes to themes, to the interrelationship of themes, to larger conceptual models. (p. 93)

To avoid entering my predictions in the results, I collaborated directly with participants during the study's data analysis and interpretation stages and represented data partly based on participants' viewpoints and partly based on my interpretation. In the end, I discussed the

findings by comparing my findings with my personal views with extant literature (Creswell, 2013).

An Overview of Workshops

Due to the Covid- 19 pandemic limitations and the impossibility of holding the workshops physically, I conducted the workshop virtually. Once every two weeks, I sent the session's outline by email to participants, and one week later, we had a virtual meeting on the Zoom platform on Sundays for about one hour.

I conducted my study in four cycles. These cycles took place following iterations, including analysis and exploration, design and construction, and evaluation and reflection (McKenney & Reeves, 2012). I designed each sessions' outline considering socially engaged art methods focused on ecology and environmental issues. The themes of the sessions were environmental indifference, climate change, animals, and environmental justice. According to Johansson and Isgren (2017), as there are no outlines for conducting the SAE research method, and fieldwork steps are unpredictable due to multiplicity variables, many methodological decisions had to be made and remade during the time in the field. As new needs and concerns arose at each session and the research's focus developed gradually, I adjusted the action plan.

For each session, I designed an art activity considering the sessions' theme. The objective was to create a space for participants to engage with the issue, think critically, and express their environmental concerns creatively. The activities were designed so that anyone could do them with basic knowledge of art and access to limited tools. I asked participants to consider these three questions during their artistic exploration: What is the current situation of you and your environment? How was it in the past years? How do you wish it to be in the future?

The outlines of each session included informative documents about the discussed issue in addition to the art practice, which comprised of articles, videos, documentaries, and images

that described aspects of environmental issues. In each session, I also introduced contemporary artists who express their environmental concerns through the visual language. The introduced artists were active in various fields of art and pointed to a different range of environmental issues in their works. The purpose of sharing this content was to provide informative and educational information on each topic and introduce varied viewpoints and concerns. Reading and watching the resources were not mandatory; however, I encouraged participants to review them before doing the art activity.

Every other Friday, participants sent me their artwork through email. I made a PowerPoint slide of images to show at our virtual meeting. Throughout showing the artworks, participants explained their work's creation process, perceptions, and experiences during the art activity. These meetings were the time for discussion and engagement in the conversation that had an educational function in this study. Conversations took place around the session's topic and then extended to the causes and consequences. Participants conversed about their experiences, observations, concerns, and suggestions. My role during the sessions was limited to the facilitator, meaning I did not interfere in the discussions. I only observed, took field notes, and collected data.

Participants

Participating in this study had no specific prerequisites of the level of experience in artmaking and environmental knowledge. I selected possible participants among my peers, artists, contacts in social media, and people introduced to me by my friends. Most were individuals who had studied in different fields of art or were interested in art. I invited them through a formal invitation letter, and finally, five women and one man agreed to engage in this study. I introduced the research and explained the consent form they would be requested to sign through an email. Participants were free to choose which level of disclosure they wish

for their identity. They agreed to be known by their real name, revealed in the data under their consent.

Attended participants were between 25 to 40 years old. The first participant that joined this study was Faezeh from Germany. She is an interior designer and lives in Germany. Negar and Somayeh accepted my invitation afterward from Montreal, Canada. Negar studied literature and is the youngest participant in this study. Somayeh newly immigrated to Canada from Iran and is working as a ceramist artist. Zahra is a painter, mother of a two-year-old daughter, and lives in Oman. Farima joined this study from Toronto, Canada. She studied painting and works as a primary school teacher. Alborz is the only man who participated in this study from Montreal, Canada. He has no background in art, but he photographs as an amateur.

Chapter 4: Pre-one-on-one Interview

The pre-one-on-one interviews with participants took place on the Zoom platform. First, I introduced the research and the Design Cycle Phases and then I conducted my pre-interview, inviting each participant to answer the questions I had prepared (Appendix B). The questions were a prelude to starting the workshops. I designed them to ask about participants' ecological knowledge and, at the same time, to challenge their environmental hypothesis.

I coded the pre-interviews in the following manner: I read over the transcripts and used colours to highlight key themes that emerged. I created categories and took notes on how often participants mentioned these themes, how they talked about each theme, and I constantly compared and contrasted the findings. In the rest of this chapter, I will talk about common themes, descriptions, and participant's responses in particular categories.

Crisis. One of the first trending words that all participants tended to use was the word "crisis." The word seemed to be the most used common word when participants responded to the question, "Where in world history do you think we are? What kind of world is our modern way of life producing in terms of our relationship with the natural world?". They use this word when referring to environmental issues such as global warming and natural disasters. The "crises" have a severe but, at the same time, imperceptible impact on human life, and people have not paid enough attention to it. Negar, Alborz, and Somayeh claimed that the environmental crisis resulted from the rapid advancement of the modern and technological world, which focused only on human life improvement regardless of its environmental consequences.

Participants also described the condition caused by the Covid 19 pandemic as a crisis that "has changed life on earth." They considered this situation historically critical. Farima likened it to the post-World War II era when people struggled with pandemics, recession, the Cold War, and the environmental crisis. Zahra considered it as a transition that divides history

into two parts before and after the pandemic. Faezeh and Zahra suggested that although people are more aware of the crisis treat the earth, they are too weak to overcome it.

Loss and Nostalgia. When participants began to express their hidden feelings about nature in question two, the concepts of loss of the natural world and nostalgia were evident in their responses. They talked about different reasons for this loss. For most of them, it was the result of human activities. Farima and Somayeh hold the excessive aggression of the industrial world responsible for the loss of nature and the environment. Faezeh mentioned, “our modern lifestyle disconnected us from nature.”

Zahra and Negar considered this loss a natural result of the passage of time. Zahra said that the older she gets, the more she unconsciously distanced herself from nature. Negar spoke of her deep sadness for the loss of nature of her childhood. Zahra, Negar, and Alborz talked about nostalgia when they remembered the carefree moments of being and breathing in pure nature. Zahra said, “I wish I had played more in nature and had a closer and friendlier relationship with it.”

Sadness and Anxiety. These words were used when participants talked about the current situation of the world. Reading the news, watching movies about disasters, and talking about environmental issues worldwide made them anxious. Some participants mentioned that they tend to ignore this news since it made them feel negative about life.

Somayeh expressed her constant anxiety and fear of seeing the destruction of nature in Iran and how these feelings kept her away from a deep connection with nature. Zahra said, “when I think about the rapid destruction of the earth in the last few years, I feel deep fear and anxiety about my two-year daughter’s future.” Faezeh stated that she feels afraid when it comes to the environment because she sees humanity incapable of saving it, which has made her never think about having a child. Farima considered her fear of nature because it is unfamiliar for her, and she never had the opportunity to interact with wild nature.

Childhood. Negar and Alborz were two participants who spoke about the impacts of a close relationship with nature on their personalities today. Negar mentioned that she and her siblings spent their childhood in a village close to nature and domestic animals. She said these experiences made me feel closer to nature unconsciously. Alborz had the same experiences in nature, and he also determined his parents' role in providing a situation for introducing animals, trees, and the natural environment to him.

Assumptions

Human-Centred Worldview. When I asked participants about the assumptions that affected our environment, commonly, they mentioned those directly related to the human-centred worldview. They pointed to patterns that have been advertised through media over the years and consider man the supreme power on the earth. They also pointed to the impact of this propaganda on the superiority and power of a particular race.

Farima stated, over centuries, human beings see the earth's resources as their inalienable right and use them as wished, and this view has destroyed the environment. She and Zahra recognized the embodiment of this assumption in the present century as the capitalist system, which has led to consumerism in societies and, for its benefit, encourages people to buy goods more and more.

Somayeh and Alborz also addressed the consumerism issue in their responses. Alborz saw this issue due to the assumption that people can use anything and throw it away whenever they want. Somayeh considered fast fashion as one of the examples of that, which imposes many damages on the environment.

The other assumption that participants agreed is that affecting the justice on earth was related to human behavior with other species. They mentioned that humankind considers itself righteous over other species and uses them. Negar pointed to the food we eat, "we know that the food we eat has harmed animals, but we tend to ignore it most of the time." Faezeh

remembered a video about cow butchery and how they were killed in front of each other because people think animals have no feelings and do not understand. She also mentioned the use of animals in laboratories.

Sustainability

The three other questions inquire about participants' knowledge of the sustainability notion. Sustainability, environmentally sustainable person, and society had different and sometimes common meanings for participants. Two participants had no clear understanding of sustainability in the environmental context, and they asked me to explain this term to them briefly.

Solidarity. I begin with the most common word participants used to respond to the question about sustainable people and society. In general, participants were not optimistic about realizing a sustainable society and underestimated the role of individuals in achieving that. Farima, Zahra, and Alborz determined the role of governments more important than individuals and noted that for having a sustainable society, we need cooperation and solidarity between governments, scientists, and citizens. Farima saw the powerlessness of green parties worldwide as an obstacle to achieving this union.

Faezeh noted the effect of the job environment and how she must do things against her will, such as excessive and unnecessary daily consumption of papers. She added, "In order to be a sustainable citizen, I need the support and solidarity of the system in which I work."

Unlike other participants, Negar was optimistic about the power and role of individuals in bringing about change. She raised the issue of unity between people and said, "By informing and bringing people together, a sustainable society can be achieved."

Reuse, Recycle, Renew. Participants tended to use these three words when they wanted to give examples about a sustainable lifestyle. In responding to this question, Farima said that a person who can use the available renewable and reused resources intelligently could help

himself and other creatures survive. Zahra used the word recycle and renew to address the importance of preserving the environment for the future generation. From her point of view, sustainability can be implemented if there is a proper cycle of production, consumption, and recycling.

Faezeh and Alborz cited reusing and recycling as a way to reduce damage to nature. Faezeh described a sustainable human being as a person who causes minor damage to the environment and sees the least damage himself too. Alborz remembered how his grandmother sewed tote bags or patchwork bedsheets of used fabrics instead of throwing them away and prevented harm to nature by producing less garbage.

Awareness. Farima and Negar cited education and raising awareness as the most effective ways to reinforce sustainable living culture. Negar pointed to the impact of watching some educational videos and advertisements on reducing plastic consumption on herself and the need for more same programs in society.

Economy. Farima and Somayeh were the two participants who addressed the economy's effect on the failure of a sustainable society. Farima said, economic issues have made people think more about their daily income and make immediate decisions and not think about their works' effects on the environment. Somayeh addressed another aspect of the economy, saying that "the economic benefits of big companies, factories, and capitalists are in growing consumerism, and it is a significant obstacle to the sustainability in societies.

Making Change

In the last question, I asked participants about their power to make a change. Almost most participants found themselves incapable of making an effective change in the current world situation since they believed that fundamental change had to be made by governments. However, they mentioned some ways that can be effective.

Lifestyle. In response to this question, participants pointed to solutions in their daily lives that can effectively reduce environmental damages. Participants spoke about buying more environmentally friendly products. Alborz and Negar talked about using less plastic. Alborz considered purchase products with recyclable packaging as one of the ways. Somayeh and Farima stated they are careful in buying their clothes and try to buy less. Faezeh and Farima found waste composting one of the impactful ways that they can do every day. Faezeh talked about strict rules in Germany in this regard, and Farima said she needs to learn more about it and be more careful.

Teaching and Learning. Learning about environmentally friendly behaviors was another point that some participants considered necessary. Farima expressed that she needs to learn more about the environment and to connect to nature more wisely. Negar described the impact of educational videos on this subject, adding: “I may not have done them at the moment, but knowing and accepting them has been a big step for me.”

Teaching. Zahra articulated, “as an artist and with my works, I might be able to play a role in informing people about environmental issues; however, I am not sure about its effectiveness.” On the other hand, Farima was optimistic about educating children in kindergartens and schools, according to her experiences in school.

Judging from where the six participants started, they were interested in the topic, and they were enthusiastic and eager to learn. In reviewing the interviews, I found that participants had environmental concerns about the future and were not optimistic about the current situation. In general, they felt powerless over climate change and seemed hopeless in improving the ecological crisis.

The next chapter will describe the four iterations of this study in detail and present participants’ artworks.

Chapter 5: Iterations

Workshop 1: Environmental Indifference

The workshop's first session was designed on the initial idea that separation from nature leads to decreasing ecological indifference. Unfortunately, few of the people today are experiencing nature directly; according to Orr (2002) and Pyle (2002), moments for 'awe' and 'wonder' are diminishing as urban centers grow and the use of virtual worlds increases. The experience of nature through the lens of art can help individuals explore different contexts for learning about and in the natural environment, which can be transformative. Artistic exploration can help us explore planetary awareness (O'Sullivan, 1999) and new ways to observe and live in the world.

For this session, I asked participants to go for a short walk in their neighborhood and watch the environment, nature, streets, people, trees, sky, and anything familiar, and to think about them and their presence in the environment. On the way back home, they were invited to look deeper and observe the part of nature that they usually are not aware of and may unconsciously ignore; and take five photos or short videos (up to one minute) from these hidden scenes.

The resources I sent to the participants included an article by Ben Mylius (2015) about ecological indifference; three videos respectively titled *The Earth Is Our Mother*², *What a Wonderful World*³, and a Ted Talk by Coco Huang about environmental indifference⁴; and an art series of artists Rachel Sussman⁵. In *The Oldest Living Things in the World*, photographer Sussman traveled the globe for ten years, searching for the world's oldest living things with a

² <https://www.youtube.com/watch?v=YzI08RxzTrE>

³ <https://www.youtube.com/watch?v=auSo1MyWf8g>

⁴ <https://www.youtube.com/watch?v=QeoeAmfU4Sw>

⁵ <http://www.rachelsussman.com/oltw>

camera in tow. From the Mojave Desert to the Australian Outback to Greenland's glacial regions, she captured portraits of organisms surviving for 80,000 years, bringing attention to our planet's resilience despite human intervention. The shared materials highlighted the diverse aspects of environmental indifference in particular ways; some explain the concept of this term and give us a sight of its consequences in different words, and some reveal the unseen visions of the earth artistically and poetically.

The participants attended the first discussion session on the Zoom platform a week later. They had emailed me their photographs one day before the meeting, and I showed them on Zoom through the share screen option. During showing each photo, they talked about their experiences and insights about this activity. Two participants live in the suburbs, which means more natural space, more green areas, and farms, while the others live in the urban area, and captured the beauties of nature among buildings, cars, and streets (Figure 5).

Figure 5

Zahra. Negar. Somayeh. Workshop #1



They all mentioned how this experience affected their interaction with nature and the way of looking at it. “I started thinking of what I have missed or ignored outside while passing by. My busy lifestyle occupies my brain even though I go out to enjoy the fresh air and nature.

So, I planned to set myself free, empty my brain and focus on interacting with the environment around me without any interference”, Farima said. Faezeh added, “I did slow down and connected closer to nature than usual. This activity encouraged that in me. I am regularly out in nature and enjoying it, but I made a deeper connection with being more mindful about it, not just enjoying it.”

There were significant commonalities between photos. They suggested that this activity encouraged them to slow down and look more closely. Farima noticed a pile of trees cut along with an old pipe and part of a guard rail while she was looking around. “They seemed like a bunch of trash that I usually do not pay attention to, but when I went closer, I saw weeds and grasses grown on or even inside them. I could see some insects on those trunks too. They seemed dead at first, but they were full of life.” Negar and Alborz also noticed living things where they did not before. (Figure 6)

Figure 6.

Farima, Alborz. Negar. Workshop #1



The participants pointed to the signs of rebirth in their photos of the tree stumps. Faezeh said, “Their death was not the end but a beginning for others, just like the circle of life that I

read about in the books. Now it was there, right in front of me!” Alborz added, “We barely look at the dead trees as a source for a new beginning. That was an eye-opening moment for me.” (Figure,7)

Figure 7

Alborz. Farima. Faezeh. Workshop #1



This inquiry journey in nature encouraged participants to look at their environment from different angles. Eagerly, they pictured the ground under their feet and the sky behind the trees (Figures 8 and 9). Somayeh pictured the sense of spring’s fresh air of Montreal by photographing germinated trees with the blue-sky background. Zahra refers to the palm trees, the indigenous tree in Oman, and its shadow in the burning heat of her city, and Negar finished her journey by laying on the ground and discovering the sky behind the tree branches. Farima discovered a hollowed tree with a hole toward the sky and described it as a window to the tree’s soul. “I could not get enough of it. I kept looking through the hole and wanted to see and find more. I felt I discovered something rare.”

Figure 8

Alborz. Zahra. Negar. Zahra. Workshop #1



Figure 9

Somayeh. Zahra. Negar. Farima. Workshop #1



Reading and watching the informational resources was not mandatory; however, participants said they went through part of the resources in response to my question. They tended to study visual references like videos more than articles. It helped them get familiar with the notion of environmental indifference and its impact on human life. They also said they were impressed and inspired by the works of Rachel Sussman. Two participants said they tried to indirectly show these effects in their images' theme or composition.

In this session, I tried to be only the facilitator of the meeting and avoided direct intervention. Participants only talked about their own experiences, and no active dialogue formed between them. I cannot ignore the impact of the virtual environment and that they met each other for the first time, on the lack of forming the conversation. However, since the discussion is an essential part of the learning process in this study, I decided to focus more on it and try to develop the conversation in the next meeting.

Workshop2: Climate Change

The central theme of the second session was climate change and its effects on life on earth. During the one-on-one interviews, participants stated that they feel powerless regarding climate change, and thinking about it causes increasing anxiety and stress. According to Panu Pihkala (2020), anxiety and distress regarding the ecological crisis are increasing. Climate distress (Randall, 2019) is almost related to many complex emotions, such as grief, guilt, anger, and despair. Pihkala (2020) added that since positive emotions such as empowerment and hope are significant goals of environmental education, positive emotions received much more attention than negative emotions in environmental education literature; however, numerous psychologists have emphasized that they also relate to everyday life. The importance of “critical emotional awareness” for both educators and students (Ojala, 2015) is notable here. By accepting and confirming the distresses related to climate issues, we can transform them into a change drive. Art can act as a transformation force.

Art and aesthetic practices are increasingly noticed as a means of promoting a significant connection with climate change. Creative approaches help expand imaginaries of the environmental situation and suggest change scenarios (Bentz, 2020). Considering the art’s potential to transform society and its potential to stimulate feelings of hope, responsibility, and care, I designed the workshop’s second session.

Since participants' performance in the first session was notable, I designed a practice that keeps them more connected to the natural environment. So, I suggested Nature Writing practice for the second session. I asked participants to spend a short time in their home's natural surroundings, try to make a deep connection with their environment, incorporate their observations of and philosophical reflections on nature, and then write a short text or poem about their feelings. I also asked them to accompany their texts with one symbolic picture of their deep feelings about the environment that has inspired them to write. The purpose of this practice was to invite participants to pause, think, notice, and attune their senses. Nature writing helps to see things with fresh and focused eyes and provides a context for reflection, guided thoughts, and expression, without restrictive thoughts.

Due to all participants' interest in the visual resources, I adjusted the content to be deal with the issue more visually. The first material was *Kiss the Ground*⁶ documentary. This inspiring film is about regenerative agriculture as a prime solution to global warming. I also added two websites by NASA⁷, one titled *Climate Change: How Do We Know?* that describes the evidence for rapid climate change; and the other one *Climate Time Machine*⁸, a fascinating National Aeronautics and Space Administration interactive site that shows how some of the Earth's key climate indicators have been changing since 2002. Finally, this week I introduced two art series. One, *Ice-Watch*⁹ by Olafur Eliasson, in which Eliasson displayed pieces of ice that broke off from Iceland's largest glacier, Vatnajökull. This work was a metaphor for wreaking havoc on nature because of global warming. The second was a series of installations by Barry Underwood entitled *Electric Landscapes*¹⁰. In this work, combining elements of

⁶ <https://kisstheground.com/>

⁷ <https://climate.nasa.gov/evidence/>

⁸ <https://climate.nasa.gov/interactives/climate-time-machine>

⁹ <https://icewatchlondon.com/>

¹⁰ <https://worldlandscapearchitect.com/illuminated-landscapes-barry-underwood/>

painting, photography, performance, cinema and land art, Barry Underwood presents environmental issues like light pollution and deforestation.

I received the texts and images by email one day before the session and organized them in a PDF file to show at the virtual meeting on ZOOM. Because of the educational importance of the participants' conversation and its lack in the first meeting, I decided to start the meeting differently. I started the conversation with a friendly talk unrelated to the research topic about our daily life and general concerns. This conversation let participants get more familiar with each other, and gradually it contributed to filling the distance imposed by cyberspace, and we all felt closer to each other. As I expected, the friendly atmosphere made the dialogue between the participants stronger in this session. They started to express their thoughts more freely, talked about all writings and photos, and found some common concepts between each others' activities and findings in nature.

Participants explained that nature became a source of inspiration for their metaphorical writings. In these writings, trees played a principal role. For the four participants, trees appeared as teachers. Faezeh considered the contrast between dry trees and sprouted trees in the spring as a reminder to accept the contradictions (Figure 10). Farima addressed a tree's flexibility despite its rigidity in reaching the light and described it as a symbol of adaptation (Figure 11). Negar spoke about the broken tree with its roots in the water for survival and translated it as hope for a living (Figure 12), and Somayeh considered the trees' lives as a lesson for peace and happiness (Figure 13).

Although all these works reflected participants' interpretations of the natural world, they did not consider the climate change issue directly. Three of them attribute this to their attention to the practice, i.e., nature writing that was new and exciting for them and caused them not to pay enough attention to the subject. Besides, one of them stated that due to the

abstract quality of the term climate change, she could not find a written and visual translation and decided to use a symbolic element like a tree to express her feelings about the environment.

However, Zahra and Alborz created their works with more focus on the climate change theme. They both acknowledged how during the activity, they had to encounter their ecological fears. Zahra described her expectancy for rain. She identified with the tree that was also waiting for rain in the dry land of Oman (Figure 14). Moreover, Alborz expressed his deep concern about losing nature's kindness to all creatures (Figure 15). They both let their imagination and creative thinking stand against their constant fears of losing nature. Zahra stated this fear has rooted since her daughter was born, and it has made her feel anxious about nature's future deep in her heart. In the following pages, you can read and see the created works by participants.

Figure 10

Faezeh. Workshop #2



Faezeh: Differences are not always unpleasant, Sometimes, accepting differences together is a factor to create beauty! And how beautiful it is to learn from nature the greatness and glory of the contradictions!

Figure 11

Farima. Workshop #2



Farima: While walking on a road that cut through the woods, I saw a twig as a pointer to a lesson in nature. Even something as rigid as a tree known for being straight will bend itself to

get to its paramour, to the light that seemed unreachable in a crowd. I wonder what would the little insect think when walking up the exotic nature piece? I wonder maybe the twig was intentionally calling on observers to be mindful.

Figure 12

Negar. Workshop #2



Negar: Like nature after the winter, I feel the ice inside me slowly melting and my energy goes up day by day. A couple is sitting on a rock by the river, watching the rushing stream of water.

Right in front of them are two trees that are bent but not broken. A tree that has been completely uprooted but the water is still faithfully hosting its roots. I lie down on the rock by

the river for a few minutes. The sun seemed to be getting closer. I closed my eyes. And now everything was the sound of water, the sound of water, and again, the sound of water.

Last week, I became stronger in a different way, a force has flowed inside me that even with defeat continues its way! Like nature after the winter!

Figure 13

Somayeh. Workshop#2



Somayeh: Trees are a glorious and magnificent part of nature.

They grow up effortlessly and their branches get to the sky freely.

Conversely, human beings face a pile of problems during life to find peace and happiness.

Figure 14

Zahra. Workshop #2



Zahra: Leaves that sink into the cloud, the wind that I have been waiting for, for a year.

And the sharpness of sunlight on my eyes.

Hey, wind! Where do you take my clouds? I am awaiting the rain of these clouds.

For a few days in our geography, the weather is a bit cloudy, and we are waiting for rain. This time I am sitting under a tree in solitude with nature. The rhythmic and soothing sound of the leaves takes my gaze up, to the leaves, to the sky, to the clouds. I join the dry, rainless ground on which I sit, and our longing becomes one. This land does not rain all year round. If it gets lucky, once, or twice a year. I am wondering! What will happen if the clouds do not promise any rain to any land one day?

Figure 15.

Alborz. Workshop #2



Alborz: I am here, under the blue-colored roof of the earth.

I close my eyes and take a deep breath.

I am thinking about the existence of me and others, of the singing birds, verdant trees, vagrant white clouds, and the young neighbor I saw in the hallway this morning.

The pleasant breeze is caressing my face.

Yet, there is a sound in my head asking,

Will nature continue to be kind to us?

.

As a facilitator, I observed the discussion between participants during this session, took field notes, and gathered data. In addition, because the lack of attention to the subject was evident in the works, I decided to analyze the reason and made a new suggestion for the next session.

Workshop 3: Animals

This session had a look at urbanization and animals' lives. Urbanization and biodiversity interact in multifaceted and complex ways (McKinney 2002). Rapid urbanization is changing wildlife profiles in cities and influencing biodiversity and ecosystem settings both directly and indirectly. According to Elmpqvist et al. (2016), direct impacts primarily consist of habitat loss and degradation, altered disturbance regimes, modified soils and other physical transformations caused by the expansion of urban areas. Indirect impacts include changes in water and nutrient availability, increases in abiotic stressors such as air pollution, increases in competition from non-native species, and changes in herbivory and predation rates.

Since participants did not pay enough attention to the subject in their art practices in the last session, I decided to explain the third session's topic in more detail. While I have noticed that participants are not comfortable reading the written texts, I decided to explain the

problem orally. So, I recorded 5-minute audio about the effects of urbanization on animals' lives and sent it with the other supporting materials to the participants through email.

I asked them to look for the animals who live in their surroundings in the urban environment, think about these animals' past, current, and future conditions, and capture their observations through photography. This practice aimed to raise participants' awareness about the fauna in the urban area; and as Stephen Jay Gould (1991) proposed, to build an emotional connection with the other species, which is crucial if we are to protect them, since “we will not fight to save what we do not love” (p14). Artmaking and aesthetic practices have their particular way of developing emotional connections. Thus, art can be a powerful context to produce the emotional bond Gould spoke about (Vasko, 2016).

The third session supporting materials mostly contained visual resources: A video titled *Meet Some of the World's Most Endangered Animals*¹¹ contained the animals' portraits taken for the National Geographic Photo Ark by Joel Sartore; A written report about marine species extinction titled *Threatened & Endangered Species*¹² by Marine Conservation organization, including photos and videos; An article by Renee Cho titled *Why Endangered species Matter*¹³; *1,600 Pandas*¹⁴ an artistic project and travelling exhibit by French artist Paulo Grangeon, in which he created 1,600 papier-mâché bears meant to represent the actual number of pandas left on the planet in 2008; Paintings by Juan Travieso¹⁵ and Josh Keyes¹⁶ about endangered species. I chose these resources to cover scientific, educational, and artistic aspects related to the extinction of wild animals in different environments.

¹¹ <https://www.nationalgeographic.org/video/meet-some-worlds-most-endangered-animals/>

¹² <https://www.marinebio.org/conservation/marine-conservation-biology/threatened-endangered-species/>

¹³ <https://news.climate.columbia.edu/2019/03/26/endangered-species-matter/>

¹⁴ https://www.boredpanda.com/paper-mache-panda-tour-paulo-grangeon/?utm_source=google&utm_medium=organic&utm_campaign=organic

¹⁵ <https://juantravieso.format.com/>

¹⁶ <https://joshkeyes.com/>

A week after I sent the practice and materials to the participants, they emailed me their photographs. I prepared a PDF file of photographs to show at the virtual meeting. On Saturday, we gathered on Zoom, but Negar could not engage in this session's practice and meeting for personal reasons. We started our conversation informal and had a friendly talk about the last weeks together. The Idea of an oral explanation on the subject positively affected this session's educational and creative outcome. Participants expressed that the audio file encouraged them to engage with the subject, focus on the supporting materials and learn from them more than before.

Each of the participants was involved with the theme in a different and meaningful way. Faezeh expressed that the workshop made her pay more attention to nature than usual. One day, on the way back home from work, she saw a stork surrounded by construction tools and a crane that had found a small water hole and was drinking water. She described, "As I was photographing this bird, I thought that maybe there was a lake in this area before, and now that it has returned to this point, searching the water, it is facing the construction scene." (Figure16)

Figure 16

Faezeh. Workshop #3



Somayeh made the gray squirrels of Montreal the subject of her photos. She mentioned that some people believe the overpopulation of these furry creatures is becoming a severe problem in Montreal. She said, “One main reason for this growth is the lack of predators, which had to leave their environment because of the expansion of cities. So, can people blame squirrels for the damages?” (Figure 17)

Figure 32

Somayeh. Workshop #3



Alborz also looked at animals living in his city, Montreal. He explained that he saw a small hole in a green field near his home once he was walking. “After waiting for some days, I saw its owner, a cute groundhog, was escaping very quickly from people passing his territory. I wondered how hard it could be to be encircled by humans and always run away.” (Figure 18) Alborz also described how being mindful helped him to notice small creatures around and think about their purpose in nature. He described, “Small things are not the secrets of nature, and it just needs little mindfulness to see them.” He added, “I paid attention to these glorious tiny insects, and saw their beauties. We fear insects most of the time, but we can see delicate and incredible details when we look closely at them” (Figure 19).

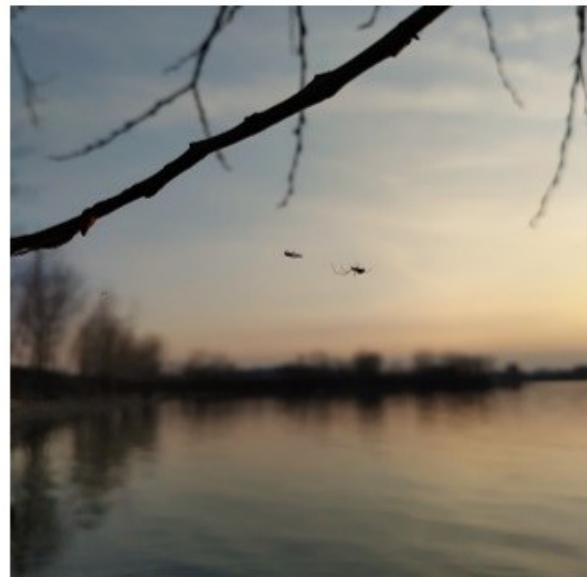
Figure 48

Alborz. Workshop #3



Figure 64

Alborz. Workshop #3

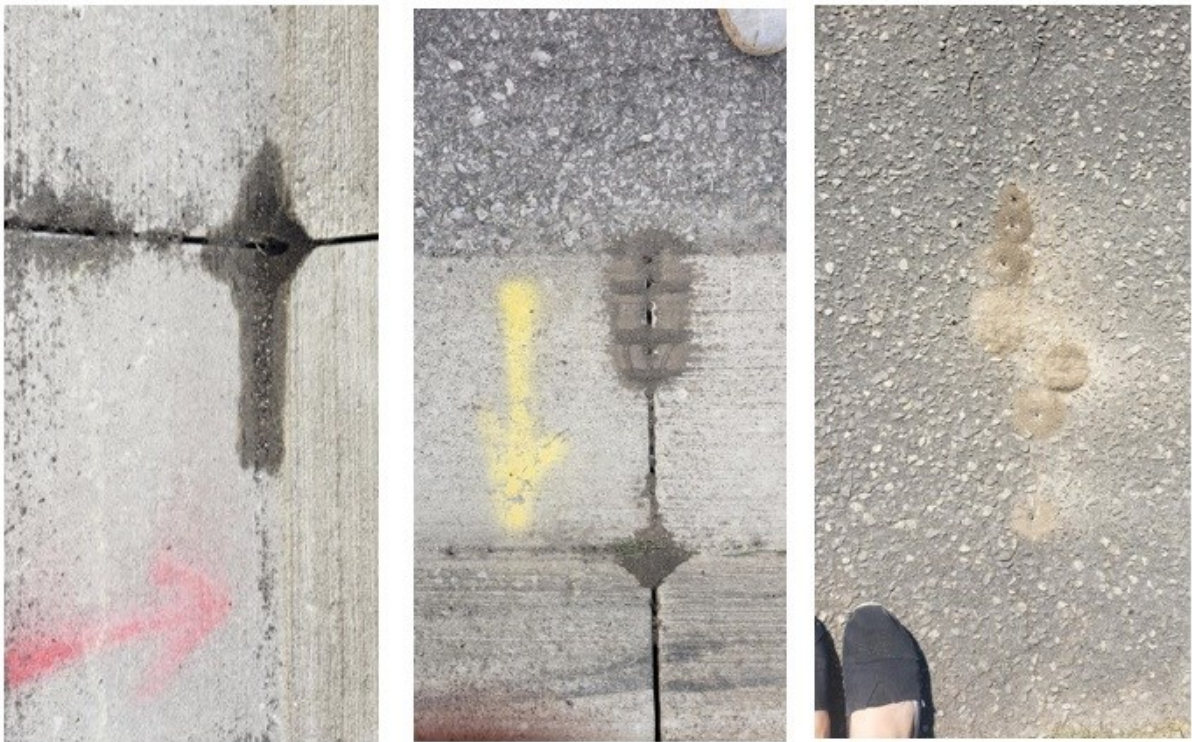


Like Alborz, Farima also pointed to the small creatures. She paid attention to tiny creatures that we call pests and bugs. She said, “I see things through a different lens since I started doing these workshops. It is fascinating how my brain is thirsty to observe my

surrounding natural environment through artistic yet naturalistic angles.” She noticed a couple of ant nests and two coloured arrows on the concrete block near the road. She added, “The blocks were marked by the city and supposed to be repaired or replaced and probably disturb the colony’s life. This made me look for more ant hills around and took more pictures of them” (Figure 20). She called these ants the fighters with short lives, who constantly get killed because humans call them pests.

Figure 80

Farima. Workshop #3

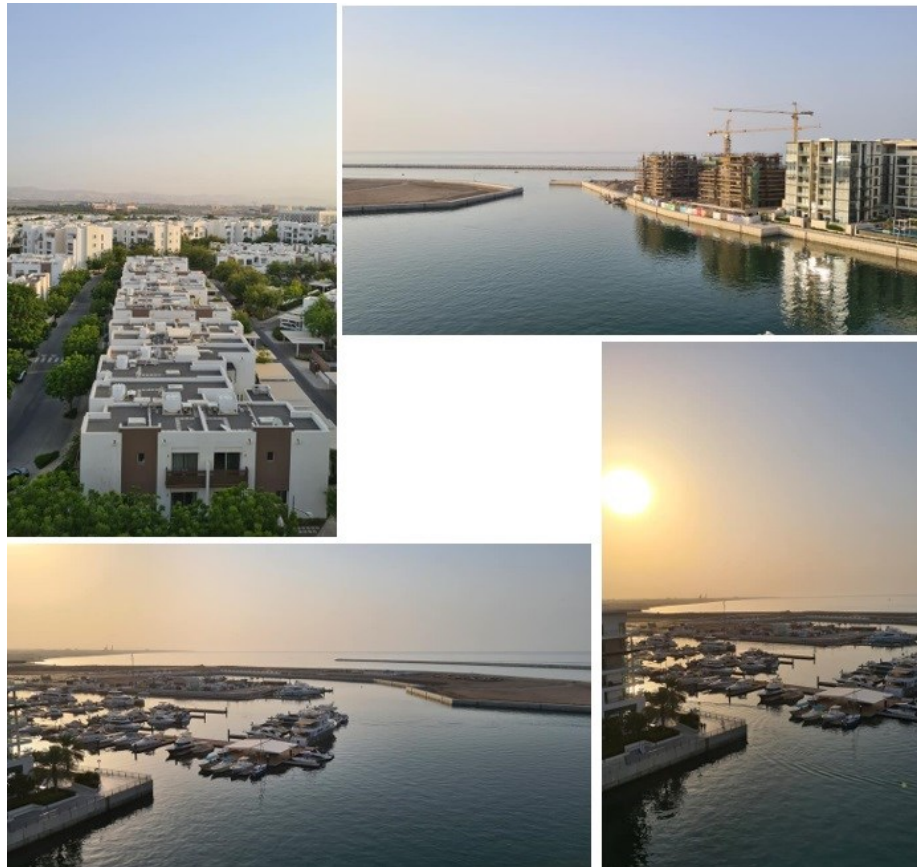


Zahra added a different concept to this session. Her photos pictured the absence of animals in her city. She described how the municipal officials destroyed the local fauna and flora in Muscat to build modern cities and residential areas for economic benefits. Because of the high temperature and her daughter’s illness, she could not go out of the home, so she photographed the outside environment through the window (Figure 21). She combined her photographs with profound sentences that further highlight the vacancy of animals: “Do you

see that turtle coming towards the shore or that jellyfish dancing in the water? All of these supposed be there if these uniform white structures, which built for our residence, were not here.”

Figure 96

Zahra. Workshop #3



Participants had a productive conversation in the virtual meeting. They discussed how human activities changed animals’ habitats in their cities. Faezeh and Zahra noted the increase in construction of the residential buildings in their area and the drying up of wetlands, lakes, and ponds, which destroyed local animals’ habitat and affected the migration of birds and created problems in this cycle. Somayeh, Alborz, and Farima referred to the wild animals that thrive in the urban area and how some people find them as problem. They discussed the human activities that caused changing the animals’ life cycle, decreasing or increasing their number,

and rising biological defects because of toxicants in their tissues. They considered the human-centered view as one of the primary reasons for these problems. Zahra added that this viewpoint allows humans to perform activities regardless of other creatures simply for their convenience and economic benefits. They also talked about the concept of environmental justice for animals.

Workshop 4: Climate Justice

Climate change is a justice issue, and it is caused by inequalities (Harlan et al., 2015, p. 3). Wealthier nations have the most significant responsibility for environmental and climate change, while the consequences are most felt by politically, culturally, and economically marginalized communities (Harlan et al., 2015). Climate justice is not just an issue of our time but an intergenerational issue. I designed this session considering the argument that education plays a crucial role in addressing the dimensions of climate justice within and between generations. According to Kanbur (2015), by educating the present generation about their actions' consequences and costs for themselves and the future, we can significantly reduce the destructive effects we face today. He added that education is needed at least in two senses: one, educating vulnerable people and other, global education to raise knowledge of ethical concerns in climate change, particularly in wealthy countries, which can provide a basis for protecting the vulnerable population.

Same as last week, I explained the topic in a five-minute recorded audio file and sent it on Friday with the outline of the session to the participants. For the last session, I asked participants to go through the attached materials, explore the meaning of climate justice and create their artworks based on their observations of different aspects of climate justice/ injustice in their surroundings. I encouraged participants to freely create their artworks in the art forms of their choice like photography, video, collage, or nature writing. Continuing the previous practices, I aimed to introduce participants to one of the most challenging environmental issues

in our period, namely climate change, and to create a context for them to visualize their observations, perceptions, and concerns creatively and translate them into the visual language.

The supporting materials of the last session included: a video by Grist, an environmental media organization, titled, *Environmental justice*¹⁷, which explains the harmful impacts of pollution and climate change on people's health and quality of life and the people who are most exposed and impacted; *Racism Is Killing the Planet*¹⁸, an article written by Hope Hopkins, suggesting how racism and the ideology of white supremacy lead the way toward disposable people and a disposable natural world, and finally climate change issue; *Hi-Vis Futures*¹⁹, a curatorial art project by Virginia Rigney and a collaboration between artists Mandy Martin, Alexander Boynes and musician Tristen Parr. This art installation includes the complicated political, environmental, and fundamental social issues that are happening currently and for the future; And finally, an article by Elena Morris²⁰ in the Arts Boston website, introducing ten artists focused on climate change and environmental justice.

Since climate justice was a new subject for some participants, they suggested submitting their works after the group discussion session. Same as the last sessions, we met each other on Saturday on Zoom and started our conversation with a friendly chat, then I explained briefly about the climate justice definition and invited participants to talk about their concerns in this regard. Participants discussed their thoughts and made a productive conversation. They could connect with this term and considered different aspects of climate justice violations in their neighborhoods, cities, and countries.

¹⁷ https://www.youtube.com/watch?v=dREtXUij6_c

¹⁸ <https://www.sierraclub.org/sierra/racism-killing-planet>

¹⁹ <https://www.alexanderboynes.com/hivis-futures-2019>

<https://www.iceho.org/artforclimate>

²⁰ <https://artsboston.org/2020/07/28/10-artists-focused-climate-change-environmental-justice/>

Somayeh started the conversation by giving her perception of justice. For her, justice becomes true when everyone and everything is in its place so that nature's order is maintained, and all creatures access the advantages of nature and life equally. She worried how our routine activities could disrupt the order of nature, activities like what we eat, purchase or wear. She described how seeing the long lines in front of H&M and Zara made some questions for her, "I thought unless recent research has proven fast fashion is one of the principal causes of air pollution and cause environmental degradation, then why is it still popular? Why do we buy clothes that we only wear few times?"

Zahra attributed it to spreading human-centered thinking worldwide, which gives man the right to do anything for his comfort. She described, in Oman, local nature has been destroyed because of human encroachment, which is rooted in economic reasons. She said, "The government has dried up the sea for economic gains, destroyed the local natural environment, replaced it with plants imported from East Asian countries, and built a seemingly beautiful residential area for the wealthy in its community."

Alborz described drying up the sea as one of the most controversial issues in the Persian Gulf region, where rich countries like Emirate, Qatar and Bahrain are continuing to dry up the sea for constructing huge buildings, commercial complexes, and artificial islands. He added, "While these activities bring considerable benefits to its investors, they destroy varied species and coral reefs, expanding the desert, and pose many difficulties to the region's low-income countries."

In response, Farima called it the result of a system that controls the world and defines the countries in their borders, while we all live in common land, the planet earth, and every action we take affects not only ourselves but also the people of other countries and even the future generation. She expressed, "These separations make us unaware of what is happening,

and children and future generations will lose many things due to our choices and behaviors.” Zahra considered this one of the Covid-19 pandemic lessons and how her two-year-old daughter has lost many situations such as interacting with people, nature, or animals.

Negar said, “As the communities have become more advanced, life became more accessible for human beings, but this ease has also caused many damages.” She mentioned the excessive waste of food products’ packaging, which ends up in landfills and is burned in incinerators, leading to air pollution and climate change. She added, “What is made for our convenience is, in fact, our silent enemy.”

Faezeh continued that we should also consider the hazardous and non-hazardous wastes generated by industries or sectors of the economy. She explained that despite the benefits of waste separation rules in Germany, the high volume of paper and cardboard consumption is a big problem that is less addressed. She complained, “Although paper is the third-largest industrial polluter of air, water and soil, Germany uses more paper than other countries.” She described how she must copy all the documents on paper at work, which will be discarded once every six months.

Alborz said that perhaps the reason for this is the availability of paper, which made people indifferent to its consumption. He also noticed the same indifference in consuming products like coffee, which causes environmental and societal injustice, such as deforestation, extinction of animals due to habitat destruction, child labor, unfavorable labor practices with long hours, and low wages.

Participants finished this session with new ideas and knowledge gained from their conversation. I suggested that participants do a short research on the issues they wanted to work on, if possible, and share the results with others. They shared some articles and websites, which are listed in the footnotes. They were scheduled to submit their works a week later. During the following week, I received their artworks.

In her work, Somayeh addressed the air pollution issue in her hometown, Tehran, and compared it with the blue sky of her new city, Montreal (Figure 22). She pointed how, as a human being, she had been deprived of the natural right to clean air for many years due to mismanagement of the city and destructive policies.

Figure 22

Somaye, workshop #4



Faezeh had a critical look at the excess paper consumption issue that she always struggled with at work²¹. To take her pictures, she used the discarded papers in her workplace, moved them to nature, and created a conceptual picture (Figure 23). She described this photo as a reminder of trees cut down for our paper consumption every day.

Through her photograph, Zahra criticized the issue of drying up the sea in the Persian Gulf²². Zahra pictured the sea view through her home's window drying up for building commercial units there. "Every day when I look at the progress of this operation, I think to myself, what will be my daughter's imagination of the nature years after?" she wrote (Figure 24).

²¹ <https://environmentallaw.uslegal.com/specific-issues/paper/>

²² <http://article.sciencepublishinggroup.com/html/10.11648.j.ijema.20150303.15.html>

Figure 112.

Faezeh. Workshop #4



Figure 128

Zahra. Workshop #4



Negar depicted pictures of her experience of visiting Upper Canada Village²³ (Figure 25). She stated, “This village is a representation of the 19th century’s lifestyle. By visiting this heritage park, I got familiar with the traditional methods of producing dyes, yarn, fabric, shoes, and many other products.” She continued, “When I was photographing, I thought about how different the lifestyle was at that time. Our life is indeed more convenient because of the improvements, but we have damaged our environment and have endangered the lives on earth simultaneously.”

Figure 144

Negar. *Workshop #4*



²³ <https://www.uppercanadavillage.com/>

In this activity, Alborz addressed the child labor and child slavery issue in coffee, banana, and chocolate farms, i.e., three popular traded commodities in the world²⁴. He took three photos of banana, coffee grains, and chocolate bars in a supermarket near his home and collaged them with pictures of children working in these products farms found on the internet (Figure 26).

Figure 160

Alborz. Workshop #4



Farima had a critical look at the big commercial companies that violate justice²⁵ (Figure 27). She mentioned that despite her prior knowledge about environmental and social injustices, participating in this workshop caused her to learn more about companies involved in discriminatory actions, including child labor and extreme littering. She described, “With my digital collage, I tried to represent symbolically the fact that many of the world’s harsh realities are blurry to us, and we cannot see them or identify them although they are in front of us.” She added, “They are in our delightful morning coffee or our own children’s favorite Disney toy or daily grocery picks.”

²⁴ <https://sustainabledish.com/healthy-foods-that-are-cruel-bananas-coffee-and-chocolate/>

²⁵

https://www.dol.gov/sites/dolgov/files/ILAB/child_labor_reports/tda2019/2020_TVPR_List_Online_Final.pdf

Figure 176

Farima. Workshop #4



The last session ended with the collaboration of all participants. They stated that participating in this workshop was enjoyable for them, and some wanted the workshop to continue. The participants had an active and continuous presence in these workshops and took them seriously. This responsible interaction caused the workshop process to proceed and complete well.

In the next chapter, I will present the key findings from the data analysis from the last one-on-one interviews.

Chapter 6: Post one-on-one interview

Three weeks after the last conversation session, I conducted the post-one-on-one interviews with participants on the Zoom platform. The goal of the last interview was to inquire about participants' transformation after attending this workshop. I also intended to examine the objectivity of main research questions through the participants' responses. Having Van Den Hoonaard (2012) outlines in mind, I structured open-ended questions (Appendix D). These questions allowed participants to talk more comfortably about their experiences.

Because of the time difference, Faezeh could not arrange a time for an online meeting, and she asked me to send her the questions by email. She recorded her answers and emailed me two days later.

After conducting all interviews, I coded them as follows: I recorded interviews, transcribed them, highlighted key themes, and categorized them. After finishing the first draft of my analysis, I sent a copy of the text to each participant and checked the findings with them to ensure my bias had not affected the outcomes. In the following, you can read the key data I gathered through these interviews.

Looking to Nature

The first question inquired about the effect of this workshop on participants' looking to nature. All participants stated they feel the change, and these changes were almost similar between them.

Paying Attention to Detail. Paying more attention to details was the most common experience among the participants. They all declared that doing art practices has made them more sensitive to the details in nature. Faezeh expressed that "I live in an area with diverse plants and beautiful landscapes. Before this workshop, I had a broader view and admired the beauties as a whole, Now, I look at every detail more carefully and enjoy every single part." Farima said, "Now I noticed the details that I never paid attention to before when I went for a

walk around my home, and it gave me an inner pleasure.” Negar and Alborz stated that they have become more precise about their surroundings after the two first sessions and look at their environment with a searching perspective.

Zahra explained that paying attention to nature is a new game for her and her daughter. She shared that, “In the evenings, we go to the beach to play. I encouraged her to look closer at nature and describe the details, such as shapes and colours, to me. She has learned fantastic things till now.”

Curiosity. Some participants shared their experience of becoming more curious about their environment. Negar talked about her habit of photographing beautiful landscapes and mentioned, “Most of the time, my gaze was generally superficial, and the images quickly faded from my memory.” She continued, “But now, I am more inquisitive about nature, and it has helped me be more aware of changes in my surroundings.”

In a similar experience with Negar, Faezeh said, “My view of nature has become deeper and more meaningful, and I try to learn from it.” She told of her experience facing a yellow flower field, where she found tiny purple flowers in the midst of the dense yellow. “Suddenly, I remembered the colour wheel, and I get excited how these small touches of purple, hidden from view, could balance the vast yellow plane,” Faezeh said.

Alborz also described, “This workshop reminded me to be more curious, like in my childhood. Now my everyday walking is not just a physical activity; I look around to explore small plants, birds, and insects that I less paid attention to before.”

Zahra talked about her experience of curious and meticulous looks during the workshops and how she tries to encourage it in her daughter. “When we play on the beach, I encouraged her to search for small crabs and snails, play with oysters, and discover the beauties of nature,” She expressed.

Getting focused. The next topic among the participants was getting more focused on nature. They described how the practices brought their attention back to the present. Farima declared that this experience let her only focus on nature. She said, “When I went out to spend time in nature or walk, my mind always was busy and concerned about my daily life. However, now I feel more present in nature and can fully enjoy it.”

Negar expressed that repeating photography activities and writing about them helped her focus on the environment and other species. “Being focused showed me the beauties and deficiencies simultaneously, which was a necessary and pleasant flip,” Negar mentioned.

Critical look. Zahra pointed to her critical look at what is happening in the environment she lives in among other participants. She explained that “When I am out, I look more carefully around at what is happening around me. I think about structures, are they environmentally friendly or not, or what part of the coast is in the construction operations and destroyed.” Somayeh mentioned, “After doing the practices, I look at my environment differently. They caused me not just to focus on the beauties in nature but see the defects and shortcomings and think about them.”

Connectedness with Nature

The next question examined the participants’ connection with nature and whether they have felt any change in this relationship since the workshop.

Overall, Somayeh had not a positive view of the workshop’s impact. She found the impact of this workshop on her insignificant and said, “I only pay more attention to what is happening around me now, but I did not have enough time to analyze my experiences, and I do not see any apparent change in my behavior or connection with nature.”

Other participants had various ideas in response to this question. I divided them into two categories: the transformation in their old views and behaviors and their new perspectives.

Transformation. Zahra referred to her dual view of nature before the workshop and that she was not sure whether the situation could be hoped for or not, “I look at the issues more analytically now.” She stated, “I used to be neutral about most of the news I heard because I felt powerless, but now I look for questions, analyze the news, and ask myself how I can do something.” Faezeh remembered when she wanted to attend this workshop and said, “First, I felt very helpless in the face of existing problems, but now I think that apart from attitudinal changes, there are also individual changes, and I try to connect with the environment with a more positive view.”

Alborz referred to the habits of daily life and responded, “Although I have not intentionally harmed my environment since now, I paid little attention to my presence in the environment and my small actions’ effect.” He talked about the shift in his behavior and said, “After engaging with this subject, I have become more sensitive to the impact of my routine and daily behaviors, and I try to act more consciously.”

In response to this question, Negar also spoke about the change in her daily behavior and stated, “I had some information on environmental issues but usually ignored them. I am more sensitive to the environment now and pay more attention to daily routines that can affect the environment, such as shopping or the food I eat.”

Farima recalled her fear of having a deep connection with nature and said, “I have always loved nature, but I was afraid of it because of my unawareness. These exercises acted as a catalyst, helping me understand nature better and relate to it more deeply.”

New Ideas. Zahra and Faezeh talked about their new way of communicating with nature. Zahra referred to the role of weekly conversations in drawing attention to what is happening in nature and said the talks made her think more about her role in the environment. She added, “I also work on my child’s relationship with nature. I describe her about animals’ and plants’ importance on earth or about water, which is a sensitive issue in Oman.”

Faezeh pointed to the effect of three questions that I had asked them to keep in mind when doing the exercises. “These questions made me feel closer to nature in each exercise because I saw all the elements of nature as a real living thing that had a history. I thought about their memories and what scenes and days they saw. It made me more aware of my behavior,” Faezeh answered.

Awareness of the Environmental Problems and Possible Actions

The next two questions explored the effect of the workshop on raising participants’ awareness of environmental issues and the possible solutions and actions they may have found for these issues. Participants emphasized the impact of group conversations and attached information alongside making art in their learning process. They also pointed to some solutions, based on their abilities, in this regard. In the following, I will first discuss the effective points in their learning process, and then I will talk about the common solutions presented.

Group Conversations. Remarkably, all participants agreed on the impact of group conversations on raising their awareness of environmental issues. Farima considered the educational impact of group conversations and information exchange in this workshop very significant. She expressed that, “These dialogues helped me get acquainted with other experiences in different areas and to pay attention to new issues.” She referred to Faezeh’s words and said, “I have always admired Germany in recycling, but knowing the consumption and production of the paper waste issue were shocking for me. These made me look at the issues more openly and think more critically.”

Alborz also noted the effect of differences in participants’ views and experiences. “In our conversations, we shared our experiences from different geographical locations, which was an eye-opening experience,” he said. He spoke about the impact of Zahra’s words about the extinction of Oman’s fauna and flora and continued, “Hearing this problem had a profound

impact on me. I was thinking about the consequences of this disregard for plant and animal tissue in different parts of the world, and it motivated me to study more about it.”

Somayeh answered that “My awareness of environmental issues is limited to my surroundings, but attending these conversations was an opportunity to get to know different perspectives and become aware of issues that others have shared.” Faezeh also mentioned that group conversations are informative and added, “I do not know if I can play a role in changing other regions or not, but I was able to be aware of various concerns and share them with my friends and inform them as well.”

“The talks were very moving for me,” Negar said of the meetings. “When other participants talked about the story behind their photos, I came to a different understanding. Also, when I saw a scene like other participants’ photos, I remembered what they said, and these coincidental similarities were thought-provoking.”

Informative Documents. In their responses, participants found the informative materials helpful in various aspects. Zahra talked about the art content and said, “Seeing the artworks introduced me to problems such as global warming and the polar ice melting and reminded me of the ability of artists to raise public awareness and gave me the confidence to take action as an artist.”

Faezeh and Alborz expressed that they became acquainted with new topics through reading and seeing the material. “One of the sessions that occupied my mind was the third session. It was hurtful to know that many species of animals have become extinct due to human behavior, but it made me more sensitive to this issue,” Faezeh said.

Negar spoke of the impact of studying the materials, “It was my first experience to study a subject first and then express my mindset through art. This experience was very instructive for me despite its challenges.” Farima and Somayeh also mentioned their experience of engaging with the material, the new information they gained from studying it, and its impact

on their artistic activity. Farima described, “When I read the materials, my mind was more open to the issue. The variety of content helped me become more aware of different aspects of the theme, and it helped me create my artworks more meaningful.”

Individual Power

It was noteworthy that after attending the workshop, most participants paid more attention to the impact of their abilities and suggested actions that I discuss in two categories: communication and daily behavior.

Communication. Faezeh mentioned that engaging in this workshop helped increase her self-confidence to express her concerns about the excessive and unreasonable use of paper in her workplace. She said, “I researched about paper waste and its environmental hazards, and shared it with my close colleagues, along with my artwork, and suggested saving the documents within the company on digital files instead of on paper, which was well received.”

“I was always afraid to talk to people about behaviors that I knew were anti-environmental because of the complex human relationships and some considerations,” Farima said, referring to the power of speaking and communication. She added, “However, now I have decided to work on myself more and talk to those around me because I found out that even if they disagree, it makes them think, yet for a short moment, that can be effective.”

Negar answered, “At first, I try to work on my habits, but also I started talking to my friends and relatives about what I have learned and sent them content.” Alborz also said, “The content and conversations had a significant impact on me, so I decided to share them on social networks and groups that I am a member of because I think this content could be thought-provoking for others.”

Zahra described her actions as a mother and said, “I try to teach my daughter things that were not taught to me as a child. Like water, animals, and plants’ importance in our lives.” She also mentioned her role as an artist and stated, “I am motivated to implement my new ideas. I found the visual language powerful with many potentials. I try not to think about the outcome because these thoughts have always been an obstacle for me to take action.”

Daily Behaviors. Negar talked about the measures she found to be effective, such as buying wiser and using products that produce less waste. She said, “These meetings were a flip for me. The fact that the garbage I produce or the goods I consume can negatively affect another person in another country made me decide to change some of my habits and routines gradually.”

Alborz and Faezeh also mentioned the significant impact of small changes in their daily lives. Faezeh described, “Based on my experience over the past few weeks, I have become more sensitive to nature and the environment. That is why I try to be committed to actions like waste segregation, using public transportation or buying fewer clothes.”

Unlike other participants, Somayeh continued to see the impact of individual activities in helping the environment and climate justice as ineffective. “I still do not see the power of change in myself,” she said that:

“I may eat less red meat or not buy clothes or food for which much energy has been used, but with this amount of propaganda and the capitalist politics of the world, I do not think people have a tangible influence in the world.”

Artistic Activity

In the last question, I asked participants about the impact of artistic activity on their learning process and on changing their perspective about the environment and climate justice. Participants expressed their various experiences as followed:

Farima said that communicating with the subject through art was like a tranquillizer for her. She described, “During the activities, my mind was wholly involved in art. That moment was so relaxing. However, after that, I got worried about how big the environmental problems are, and how far humans want to proceed to destroy the environment.” She also mentioned her latest art activity experience and said that:

“I believe that art is also important in informing people about environmental issues. Social, environmental injustices would not be solved if people were not challenged and told. So many consumers do not know their participation in these cruel practices, and the key to solving these issues is in their hands, and that need a wake-up call with art and social media just like how these mind-opening workshops did.”

Alborz spoke of his previous experience of photographing nature and sharing it on social media. He said, “When I became involved in this artistic activity, my mind focused more on the environment, and I was slow down to see my environment carefully and depict the subject through the visual language.” He described this workshop and art activities as a different experience and added, “The art activity was meaningful for me as if I was looking at my environment through a new lens, and it caused me to perceive the subject deeper.”

Faezeh expressed a lack of confidence when joining this workshop and involving in art activities after many years. She said, “The impact of art on me was enormous. It was challenging but enjoyable to express my concerns through art. My mind and imagination were both very involved.” She added that this process helped her develop a new way of expression,

“I have noticed a change in my attitude. Now I have a solution to act. I want to tell others that you can also take pictures with your camera and change your look toward nature, animals, and the environment.”

Zahra described this workshop as a new adventure in her artistic activity, both in terms of subject matter and form, i.e., photography and video, “For me, art creation started from getting acquainted with the subject, reading the material, doing art activity, and then the dialogue session.” She said the process helped her engage with art more freely to capture what was occurring around her, “Engaging in environmental issues through art helped me look more critically at my surroundings. After this experience, I got the idea to research and study environmental issues in my city and perform an art project.”

Negar stated that during the last weeks, she often focused on finding a subject for photography, “It made me more aware of the environment and concentrated on the present moment, and caused I saw issues more closely.” She also mentioned, “Expressing my concerns through art helped me to go deeper in the discussed topics and also engaged my mind in interpreting content and events.”

In the last interviews, participants expressed some changes in their attitude and performance, which I will discuss in the final chapter.

Chapter 7: Findings

Introduction

I conducted this study because, as Berry (1988), Orr (2004), O’Sullivan (1999), and others have argued, we need a transformative education in order to help us proceed in the era of environmental crisis. As this thesis work is coming to an end, it is essential to consider the shift in participants’ attitudes toward environmental issues and climate justice. Mezirow (1978, 1991, 2000) described transformation learning as a process of participating in activities that allow the adults to confront a different worldview and integrate it into their own worldview. In general, if I look at the definition of transformation by Mezirow, the one-on-one interviews revealed that transformation occurred in participants.

I based this research on some central questions that address the main point in this study, namely the role of art in transforming environmental awareness. During the various stages of the research, I tried to answer those questions. This concluding chapter addresses how this thesis answers the research questions.

Summary of Findings

How did creative responses to environmental issues provide spaces to create ecological knowledge through artmaking in dialogue?

As Eisner (2002) proposed, art education might transform my research’s participants’ ecological consciousness in a different way. Having transformative learning, art-based environmental education, and socially engaged art theories in mind helped me provide participants with a potential setting to get involved with the addressed environmental issues. In this context, they experienced creativity, looked for the meaning of their observations, and made these experiences a part of their lives. More precisely, the learning process of this research was formed through the participants’ living experiences.

The study's learning process developed in four steps: initial acquaintance with the subject, artistic activity, and creative response to the problem, participating in the meetings and exchanging concerns, experiences, and ideas, and interpreting experiences and generating awareness and knowledge. The participants' interaction sequence with the topic, artistic activity, and conversation created a new ecological understanding for them and helped them post critical questions about the human footprint in nature.

This process enabled the participants to face the issue openly, expand their creative thinking, gain a new understanding of aesthetics, evolve the ability to interpret relationships and events, and develop critical thinking about their surroundings and environmental crisis.

How did involvement in art activities transform environmental knowledge in people?

Through the second question, I examined the art activities' potential in the knowledge transformation. Reviewing and comparing the data collected through pre and post-one-on-one interviews shows that there has been a transformation in environmental awareness among the individuals participating in this study. As Mezirow and Canton explain, the transformation process in this study began by questioning previously uncritically assumptions and perspectives.

Artistic activities allowed participants to be more curious, look at nature, and experience new ways of interacting with their environment. New experiences increased their focus on their surroundings and enabled them to gain a novel understanding of nature, the environment, and animals and to connect more closely with the natural environment. Connectedness with nature created or strengthened a sense of belonging to the biotic community, and participants experienced a new sense of responsibility towards the environment.

Participating in the workshops and engaging in dialogue with others also helped transform participants' perceptions of their powers. They became more aware of their abilities and the importance of their behavior seriously. This confidence was evident in the suggestions they made for change and action. In fact, art acted as a catalyst for participants to confront environmental issues, ask questions, and propose solutions without becoming anxious or worried.

What are the potentials of engagement, interaction, and conversation in this understudied site?

The third stage of the learning process depended on the participants' interaction with each other. The purpose of the discussion sessions was to create a context in which participants could freely express their opinions, contemplate, and converse with each other.

Participants had a compelling discussion about their assumptions and viewpoints about nature, the environment, crises, uncertainties, and social and environmental justice in each session. These conversations effectively raised questions in the participants' minds and led to the opening and accepting of new ideas, evoking thoughts, and generating knowledge.

The artworks provided meaningful content for viewing, conceiving, making dialogue, and brainstorming in this setting. Conversations were not about judging the works or whether they were "good or bad." Instead, by talking about the created works, participants became acquainted with each other's concerns and shared their perceptions and interpretations of the works.

This collaborative activity provided space to develop peer transfer of significant insights and an opportunity for participants to share experiences, observations, and information. Through the discussions, participants learned about environmental issues in other geographic locations. This new knowledge made them more open to environmental issues and

deal with them with greater awareness. Sharing experiences introduced participants to each other's worldviews and opened a new window on them.

Interaction and conversation, which are socially engaged art features, redefined the educational space. Along with artistic activity, they led to a change in people's perspectives toward recognition, openness, acceptance of new ideas, and adaptation.

How art activities contributed to making participants close to the biophysical environment?

I designed the art activities to reconnect participants with nature in a gradual rhythm to answer this question. Disconnectedness with nature is a barrier between people and a close relationship with their biophysical environment. The study's artistic activities followed two objectives: strengthening the connection with nature and raising environmental awareness.

I designed the exercises with categories suggested by Jokela (1995) in mind. In the first step, the exercises aimed to change the participants' observation of the environment. Participants admitted that getting involved in these artistic activities enabled them to pay more attention to their surroundings and become more curious. The purpose here was not just to see and discover the beauty of the natural environment but to allow participants to see the beauty alongside the defects and accept them as a comprehensive reality.

The next goal was to focus their attention on observation and promote sensitive understanding. The exercises encouraged participants to interpret their observations and uncover new notions. Some aspects of nature, such as trees and clouds, became instructors for the participants in this process. Their interaction with nature through art decreased the distance from nature and developed a more profound and meaningful connection with the biotic environment.

In this study, I needed to expose the participants to natural phenomena and environmental issues to the participants' consideration to raise environmental awareness. The

art activity helped participants face the issue and respond creatively without evoking fear or anxiety.

The art activities were also intended to encourage the participants to question the role of humans in the environment. As participants' connection with the environment deepened, they thought more about their presence on earth and the impact of their actions. Gradually, they became more aware of the importance of individuals in bringing about change and no longer saw the power for this as limited to governments and large corporations.

My workshops were different from traditional instruction, and I did not impose any training on the participants. Instead, I created a context for participants to ponder and connect to their activity, feelings, and motivations. It resulted in a sustained connection with the natural environment according to their conditions, knowledge, and feelings. This process gave them a sense of power and hope for change and transformed their previous attitudes towards the current ecological situation.

Future Direction

As news of climate crisis is heard every day worldwide, adopting an earth-centred educational model for learning has never been more critical. My research aimed to explore methods for art education to transform learners' environmental awareness and bring them closer to nature. The findings confirm that socially engaged art practices are valuable activities to deepen our awareness of and reconnect us to the biophysical environment. Through the discussions and post-interviews, I found that these workshops effectively increased my participants' awareness of environmental and ecological justice. Due to the importance of this issue, I intend to conduct these workshops in community learning centers and schools.

As a teacher, conducting this research raised new questions and ideas in my mind. The importance and effectiveness of communication on the learning process motivated me to further my study on interactive and collaborative art's potentials to strengthen these types of

workshops. After Covid restrictions are lifted, I will do these workshops in the in-person courses. Online classes were a limitation for us all, and nothing compares to people sitting together, working organically and informally learning from each other. Indeed, the physical presence in the workshops can enhance the interaction and provide new experiences to the attendees. I aim to examine approaches where participants have a more active presence in the learning setting and interact actively with others in creating artworks.

Holding these workshops showed me that studying informative materials on the topics addressed plays a notable role in the learning process. For this reason, I will dedicate part of the sessions to group study of this material in the following workshops. I will also put more value on studying artworks about environmental issues because discussing these works can suggest participants new ways of seeing and expressing and make them familiar with novel ideas.

Completing this thesis in an academic setting was an opportunity for me to study the role of art in raising environmental awareness, and now, I am more committed to teaching and research in this area.

References

- Archer, D. (2009). *The long thaw: How humans are changing the next 100,000 years of earth's climate*. Princeton, NJ: Princeton University Press.
- Barab, S. & Squire, K. (2004). Design-based research: Putting a stake in the ground. *The Journal of the Learning Sciences*, 13(1), 1–14.
- Bentz, J. (2020). Learning about climate change in, with and through art. <https://link.springer.com/content/pdf/10.1007/s10584-020-02804-4.pdf>
- Berry, T. (1988). *The dream of the earth*. Sierra Club Books.
- Berry, T. (1999). *The Great Work: Our Way into the Future*. Bell Tower, Random House.
- Boeckel, J.V. (2017). Practicing Active Non-Activeness in the Facilitation of Arts-Based Environmental Education. https://www.researchgate.net/publication/323006191_Practicing_Active_Non-Activeness_in_the_Facilitation_of_Arts-Based_Environmental_Education
- Breen, R.L. (2006). A practical guide to focus-group research, *Journal of Geography in Higher Education*. <https://doi.org/10.1080/03098260600927575>
- Brown, A. L. (1992). Design experiments: Theoretical and methodological challenges in creating complex interventions in classroom settings. *The Journal of the Learning Sciences*, 2(2), 141-178.
- Cranton, P. (2006). *Understanding and promoting transformative learning: A guide for educators of adults*. Second Edition. Jossey-Bass.
- Clarke, P. (2012). *Education for sustainability*. Routledge.
- Clarke, R. Briggs, J. Light, A., & Wright, P. (2016). Situated encounters with socially engaged art in community-based design. <https://doi.org/10.1145/2901790.2901882>
- Collins, A. (1992). Towards a design science of education. In E. Scanlon & T. O'Shea (Eds), *New directions in educational technology* (pp. 15-22). Springer.

- Collins, A. Diana Joseph & Katerine Bielaczyc (2004). Design Research: Theoretical and Methodological Issues. *The Journal of The Learning Sciences*. 13(1), 15-42.
- Cornwall, A., and R. Jewkes. 1995. What is participatory research? *Social Science and Medicine*, 41:1667–1676. [http://dx. doi.org/10.1016/0277-9536\(95\)00127-S](http://dx.doi.org/10.1016/0277-9536(95)00127-S)
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. (Third edition) SAGE Publications Inc.
- Darts, D. (2004). Visual culture jam: Art, pedagogy, and creative resistance. *Studies in art education*, 45(4), 313-327
- Design-Based Research Collective. (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1), 5-8.
- Eldridge, N. (1995). *Dominion: Can nature and culture co-exist?* Henry Holt & Co.
- Elmqvist, T. Zipperer, W. Güneralp, B. (2016). Urbanization, habitat loss, biodiversity decline: solution pathways to break the cycle. https://www.srs.fs.usda.gov/pubs/ja/2016/ja_2016_zipperer_001.pdf
- Fragkoulis, I., & Koutsoukos, M (2018), Environmental education through art: A creative teaching approach. In: *Education quarterly reviews*, 1(2), 83-88.
- Greene, M. (1995). Imagination, Community, and the School. In *Releasing the imagination: Essays on education, the arts, and social change*. Jossey-Bass.
- Gunnlaugson, O. (2003). ‘Toward an integral education for the ecozoic era: A case study in transforming the glocal learning community of Holma college of Integral Studies’. In *Journal for Transformative Education*, 2(4), 313-335.
- Gruenewald, D. A., & Smith, G. A. (2008). Making room for the local. In D. Gruenewald & G. Smith (Eds.), *Place based education in the global age* (pp. xiii-1). Lawrence Erlbaum Associates.
- Hajaraih, S.K., & Kuchinke, P.K. (2012). Researcher-designer challenges in design-based research in Human Resource Development. <https://www.researchgate.net/publication/272353062>

Researcher-DesignerChallengesinDesignBasedResearchinHumanResourceDevelopment/
citations

- Hansen, J. (2009). *Storms of my grandchildren: The truth about the coming climate catastrophe and our last chance to save humanity*. Bloomsbury.
- Harlan, SH. Pellow, D. Roberts, T. Bell, SH. Holt, W. Nagel, J. (2015). Climate Justice and Inequality. <file:///C:/Users/14389/Downloads/Harlanetal-ClimateJusticeandInequality.pdf>
- Heinberg, R. (2007). *Peak everything: Waking up to the century of declines*. New Society Publishers.
- Helguera, P. (2011). *Education for socially engaged art: A materials and techniques handbook*. Jorge Pinto Books.
- Henley, T., & Peavy, K. (2006). *As if the earth matters: Recommitting to environmental education. Thailand*. Limmark Advertising and Printing
- Inwood, H; J. & Taylor, R.W. “Creative Approaches to Environmental Learning: Two Perspectives on Teaching Environmental Art Education”. *International Electronic Journal of Environmental Education* 2(1), 65–75
- Jacobsen, M. (2014). Design-based research: Sponsoring innovation in education. Education Canada: Canadian Education Association (CEA). Retrieved from <http://www.cea-ace.ca/education-canada/article/design-based->
- Johansson, E. L., & E. Isgren. 2017. Local perceptions of land-use change: using participatory art to reveal direct and indirect socioenvironmental effects of land acquisitions in Kilombero Valley, Tanzania. *Ecology and Society* 22(1):3.
- Jokela, T. (1995). From environmental art to environmental education. In M. H. Mantere (Ed.), *Image of the earth: Writings on art-based environmental education* (pp. 18-28). Helsinki: University of Art and Design.
- Kanbur, R. (2015). Education for Climate Justice. <https://www.mrfcj.org/pdf/faces-of-climate-justice/Education-for-Climate-Justice.pdf>

- Leopold, A. (1948). *A sand county almanac: And sketches here and there*. Oxford University Press.
- Mantere, M.-H. (1992). Ecology, environmental education, and art teaching. In L. Piironen (Ed.), *Power of images*, InSEA-Finland.
- Mantere, M.-H. (1995a). Foreword. In M. H. Mantere (Ed.), *Image of the Earth: Writings on art-based environmental education*. (M. Barron, Trans.). (pp. 1-2). Helsinki: University of Art of Design.
- Mantere, M. H. (1995b). Tracking a course in the landscape of environmental education. In M.H. Mantere (Ed.), *Image of the Earth: Writings on art-based environmental education*. (M. Barron, Trans.). (pp. 3-17). University of Art of Design.
- Mantere, M. H. (2004). Coming back to the senses: An artistic approach to environmental education. <http://www.naturearteducation.org/Articles/Coming%20Back%20to%20the%20Senses.pdf>
- Metzner, R. (1995). The psychopathology of the human-nature relationship. https://www.webpages.uidaho.edu/rrt_psyc504/readings/psychopathology%20of%20human-nature.pdf
- Mezirow, J. (1978). Perspective transformation. *Adult Education*, 28(2), 100-110.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass.
- Mezirow, J. (1997). "Transformative learning: Theory to practice." In P. Cranton, (ed.), *Transformative learning in action: Insights from practice. New directions in adult and continuing education*, 74. Jossey-Bass.
- Mezirow, J., & Associates. (2000). *Learning as transformation*. San Francisco: Jossey- Bass.
- McKenney, S. & Reeves T. C. (2012). *Conducting educational design research*. New York, NY: Routledge.
- Mylius, B. (2015). Ecological Indifference: Thinking about Agency in the Face of Ecological Crisis. https://www.academia.edu/12964053/Ecological_Indifference_Thinking_about_Agency_in_the_Face_of_Ecological_Crisis_16_Minding_Nature_8_2_

- Ojala, M. (2015). Hope in the face of climate change: Associations with environmental engagement and student perceptions of teachers' emotion communication style and future orientation. *The Journal of Environmental Education*. 46(3), 133-148
- Orr, D. W. (2004). *Earth in mind: On education, environment, and the human prospect*. Washington D.C.: Island Press.
- O'Sullivan, E. (1999). *Transformative learning: Educational Vision for the 21st Century*. New York: St Martin's Press.
- Pain, R., and P. Francis. 2003. Reflections on participatory research. <http://dx.doi.org/10.1111/1475-4762.00109>
- Palmer, J. A. (1997). Beyond science: Global imperatives for environmental education in the 21st Century. In P. J. Thompson (Ed.), *Environmental education for the 21st century: International and interdisciplinary perspectives* (pp. 3-12). Peter Lang Publishing, Inc.
- Palmer, J. A. (1998). *Environmental education in the 21st century: Theory, practice, progress and promise*. Routledge.
- Pihkala, P. (2020). Eco-Anxiety and Environmental Education.
file:///C:/Users/14389/Downloads/sustainability-12-10149-v2.pdf
- Randall, R. (2019). Climate Anxiety or Climate Distress? Coping with the Pain of the Climate Emergency. <https://rorandall.org/2019/10/19/climate-anxiety-or-climate-distress-coping-with-the-pain-of-theclimate-emergency/>
- Reeves, T C. (2000). *Enhancing the worth of instructional technology research through design experiments and other development research Strategies*. American Educational Research Association
- Reeves, T. C., Herrington, J., & Oliver, R. (2005). Design research: A socially responsible approach to instructional technology research in higher education. *Journal of Computing in Higher Education*, 16(2), 97-116

- Robidoux, M. & Kovacs, J.F. (2018). Public art as a tool for environmental outreach: Insights on the challenges of implementation. *The Journal of Arts Management Law and Society* 48(3):159-169
- Sauve, L. (2009). Being here together. In M. McKenzie, P. Hart, H. Bai, & B. Jickling, (Eds.), *Fields of green: Restorying culture, environment, and education* (pp. 325-336). Hampton Press, Inc.
- Schlemmer, R. Carpenter, B.S., & Hitchcock, E. (2017) Socially Engaged Art Education Practices, Process and Possibilities. <https://www.tandfonline.com/doi/full/10.1080/00043125.2017.1317564>
- Taylor, W. E. (2008). *Transformative Learning Theory*.
- Taylor, W. E. & Cranton, P. (Eds.). (2012). *The handbook of transformative learning: Theory, Research, and practice* (pp. 3-21). CA: Jossey-Bass.
- Taylor, W. E. , & Cranton, P. (2013). A theory in progress? Issues in transformative learning theory. *European Journal for Research on the Education and Learning of Adults*, 4(1), 2013, 33-47.
- Van den Akker, J. (1999). Principles and methods of development research. In J. Van den Akker, N. Nieveen, R.M. Branch, K.L. Gustafson, & T. Plomp, (Eds.), *Design methodology and developmental research in education and training* (pp. 1- 14). Kluwer Academic Publishers.
- Vasko, Z. (2016). Connections between artistic practice and experiences in nature: considerations for how Art Education can engender ecological awareness. *Canadian Review of Art Education*, 42(2), 69-79
- Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning environments. *Educational Technology Research and Development*, 53(4), 5-23.

Appendix A: Certification of Ethical Acceptability



CERTIFICATION OF ETHICAL ACCEPTABILITY FOR RESEARCH INVOLVING HUMAN SUBJECTS

Name of Applicant: Leila Refahi
Department: Faculty of Fine Arts\Art Education
Agency: N/A
Title of Project: Curriculum for Climate Justice: Transforming
Environmental Knowledge through Socially Engaged
Art Practices

Certification Number: 30014971

Valid From: April 09, 2021 To: April 08, 2022

The members of the University Human Research Ethics Committee have examined the application for a grant to support the above-named project, and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

A handwritten signature in black ink, reading "Richard DeMont".

Dr. Richard DeMont, Chair, University Human Research Ethics Committee

Appendix B: Pre-Interview Questions

1. Where in world history do you think we are? What kind of world is our modern way of life producing in terms of our relationship with the natural world?
2. What do You feel about the natural world? We rarely let ourselves feel our genuine emotions about what is happening in the world. But now, I ask you to pay attention to your heart rather than your mind and tell what you are feeling—the emotions that are present for you right now.
3. Can you identify some of your assumptions that are impacting the environment, social justice, and our human fulfillment? What about ones that impact your own life?
4. What does sustainable mean to you?
5. What came to you when you envisioned an environmentally sustainable and socially just human presence on this planet?
6. To what extent do you think this definition can come true?
7. How much power do you feel to make a change to create a sustainable future?

Appendix C: Post-interview Questions

1. How does participation in this workshop affect the way you look at nature?
2. Has your relationship with nature and the environment changed after participating in this workshop?
3. Has this workshop made you more aware of environmental issues than before, and do you feel you can make a difference?
4. If your answer to the previous question is yes, please explain how you think these changes and actions could be?
5. What was the impact of artistic activity on your learning process and your perspective on the environment and climate justice?

Appendix D: List of Course Materials

Session 1

Theme: Environmental Indifference

Materials:

For watching:

- The Earth Is Our Mother, Arkan Lushwala:

<https://www.youtube.com/watch?v=YzI08RxzTrE&feature=youtu.be> What A Wonderful World with David Attenborough:

<https://www.youtube.com/watch?v=auSo1MyWf8g&feature=youtu.be>.

- Tackling environmental indifference, Coco Huang:

<https://www.youtube.com/watch?v=QeoeAmfU4Sw>

For reading:

- Ecological Indifference: Thinking about Agency in the Face of Ecological Crisis, Ben Mylius

<https://www.humansandnature.org/ecological-indifference-thinking-about-agency-in-the-face-of-ecological-crisis>

For exploring:

- The Oldest Living Things in the World, Rachel Sussman

<http://www.rachelsussman.com/portfolio#/olw>

Artist Website: <http://www.rachelsussman.com/>

- Waste Labyrinth, Luzinterruptus

<https://publicdelivery.org/luzinterruptus-waste-labyrinth/>

Session 2

Theme: Climate Change

Materials:

For watching:

- Kiss the Ground (Available on Netflix)

For reading:

- Climate Change: How Do We Know?

<https://climate.nasa.gov/evidence/>

- Climate Time Machine

<https://climate.nasa.gov/interactives/climate-time-machine>

For exploring:

- Ice-Watch, Olafur Eliasson: <https://icewatchlondon.com/>

Artist Website: <https://olafureliasson.net/>

- Electric Landscapes, Barry Underwood

<https://worldlandscapearchitect.com/illuminated-landscapes-barry-underwood/>

Artist Website: <https://www.barryunderwood.com/>

Session 3

Theme: Animals

Materials:

For watching:

- Meet Some of the World's Most Endangered Animals

<https://www.nationalgeographic.org/video/meet-some-worlds-most-endangered-animals/>

- Threatened & Endangered Species

<https://marinebio.org/conservation/marine-conservation-biology/threatened-endangered-species/>

For reading:

- Why Endangered Species Matter, RENEE CHO

<https://blogs.ei.columbia.edu/2019/03/26/endangered-species-matter/>

For exploring:

- 1,600 Pandas, Paulo Grangeon

https://www.boredpanda.com/paper-mache-panda-tour-paulo-grangeon/?utm_source=google&utm_medium=organic&utm_campaign=organic

- Juan Travieso, Painter Mural artist

<https://juantravieso.format.com/>

- Josh Keyes, Painter:

<https://joshkeyes.com/>

<https://www.instagram.com/joshkeyes.art/?hl=en>

Session 4

Theme: Climate Justice

Materials:

For watching:

- Environmental Justice,

https://www.youtube.com/watch?v=dREtXUij6_c&feature=youtu.be

For reading:

- Hop Hopkins - Racism is Killing the Planet

<https://www.sierraclub.org/sierra/racism-killing-planet>

For exploring:

- Hi-Vis Futures, Alexander Boynes and Mandy Martin with sound by Tristen Parr

<https://www.alexanderboynes.com/hivis-futures-2019>

<http://www.iceho.org/artforclimate>

More artworks about Environmental Justice

<https://artsboston.org/2020/07/28/10-artists-focused-climate-change-environmental-justice/>