Bring the Environment Home: Environmental Education in Low-Income Urban Communities

By

Amanda Silver

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Abstract

This report will explore how environmental education programs are being implemented in low-income urban schools, specifically in Toronto, Ontario. Research suggests that it is essential that environmental education be founded on experiential hands on learning while also being taught in context of the local community. As a result, geographic, cultural, social and economic aspects of each community should be taken into consideration when developing and implementing environmental education in the classroom. This paper will attempt to identify how 1) environmental education programs are currently being implemented in low-income urban schools and 2) whether these programs account for the different aspects of the community; this will be attempted through the use of teacher interviews as well as a literature review.

Key words: Environmental Education, Ecoliteracy, Low SES, and Urban Communities
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Chapter 1: INTRODUCTION

Introduction to the Research Study

There is growing global awareness of the grave damage that has been done to the Earth through anthropogenic activities. Resource depletion, loss of species and climate change are all factors which threaten the sustainability of our planet and the human race. David Orr, an ecologist and scholar argues that our ability to restore planet Earth rests primarily on the decisions we make about education (Chiarotto, 2011). The education children receive should nurture and embrace the innate curiosity children have for the natural world, however we must then recognize that the world that many children live in may be far removed from the natural environment. It is critical that environmental education is taught within the context of the local community. Therefore the sociocultural, economic and ecological aspects of the community should be taken into consideration when developing and implementing environmental education into the classroom (Pilgram, 2007). This research study will use the following definition of environmental education as outlined in the Ministry document *Shaping our Schools, Shaping our Future*.

*Environmental education is education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experience in, and an appreciation for the dynamic interactions of:*

- The Earth’s physical and biological systems
- The dependency of our social and economic systems on these natural systems
- The scientific and human dimensions of environmental issues
- The positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems*(MOE, 2007, p.4)*

Purpose of the Study

The purpose of this study is to explore how environmental education programs are being implemented in low-income urban schools. Educators face a unique set of factors
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regarding environmental education when teaching in low-income urban schools. With increased urbanization students may have little access to green spaces, which can result in a decrease in ecological literacy (Pilgram, 2007).

Furthermore, students from low-income urban areas may not possess the same background knowledge and experience as more affluent students. Lack of prior environmental knowledge in low-income urban schools may be correlated with “more pressing issues of unemployment, inadequate housing, and teen violence” (Fuller, 1998).

Also, when working in low-income urban schools teachers need to be sensitive to the student and their family’s socioeconomic status (SES). Teachers need to know what “field trips are appropriate” and not to expect children to have some of the experiences that are often taken for granted. “As there [may] not [be] enough money at home” to provide students with certain experiences within the natural environment (Erskine-Cullen & Sinclair, 1996). Parent’s financial resources and ability to volunteer time are factors that need to be taken into consideration when trying to implement effective environmental education programs. Due to the unique circumstances facing low-income urban schools it is critical that environmental education programs reflect them. As a result, this report is designed to draw attention to the need for research into the various ways environmental education is being implemented in low-income urban schools. This information will provide and develop a greater understanding for educators attempting to effectively meet the needs of the students in low-income urban communities.
Research Questions

This research project is based on the following research question;

How are environmental education programs being implemented in low-income urban communities?

Furthermore, what are the specific challenges teachers face when trying to implement environmental education programs in low-income urban schools? What strategies are being used to help implement effective environmental education programs? And lastly, are the environmental education programs being implemented under the consideration of the geographic, social, cultural and economic aspects of the communities they occur in?

Background of the Researcher

Environmental Education is a concept that is very important to me. I received my undergraduate degree from Dalhousie University with a major in International Development Studies and a minor in Environmental Studies. One common theme between both disciplines was the importance of awareness. With awareness comes a desire to take action. I am a firm believer that one person can make a difference and with enough people doing their part there are huge opportunities for large-scale social action to take place. Consequently, I strongly believe that it is important that environmental education be incorporated into the curriculum at all grade levels to ensure students can begin thinking critically about their individual interactions with the environment. And can also consider societal impacts and address the sustainability of these relationships.

The environmental issues our world is facing right now have amplified the importance of environmental education. One of the main points that has been emphasized in research focused on environmental education is the need for students to have hands on
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experiences in and with the natural world; this can be specifically difficult for students who live in low income urban areas. As a result, I chose to research how environmental education programs are being implemented in low-income urban schools. I feel there is a need to address the unique circumstances that educators face when trying to implement environmental education programs in low-income urban area communities.

Overview

Chapter one of this research paper outlines the need and purpose for research on the topic, as well as my specific research question and sub-questions that guided my investigation. The chapter also provides a brief background of my personal interest in and my connection to this aspect of education. Chapter two contains a literary review of relevant readings on the topic of environmental education. The literary review was a guiding element for the qualitative research I obtained from my face-to-face interviews. I had the opportunity to interview two teachers that work in low-income urban communities who are actively trying to include environmental education in their classrooms. I also carried out a case study involving three outdoor educators. Chapter three contains the research methodology and procedures used in this study including information about the sample participants and how data collection was executed. The References and Appendices at the end of this manuscript provide a comprehensive list of the resources and materials used in this research study. Chapter four presents six key findings based my interpretation of data collected from two face-to-face interviews with practicing elementary school teacher and a case study with three outdoor educators all within the Greater Toronto Area (GTA). Chapter five discusses the findings in relation to the literary review and the implications of these findings. Limitations of the research
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study as well as recommendations for further study are discussed. Chapter five as a summary and conclusion of this research study.
Chapter 2: LITERATURE REVIEW

This study explores how environmental education programs are currently being implemented in low-income urban communities. The publications Acting Today, Shaping Tomorrow, is a policy framework for environmental learning created by the Ontario Ministry of Education. It emphasizes that there is no universal model for the implementation of environmental education specific goals and the processes [of implementation] must be defined locally to meet the differing environmental, social and economic conditions that exist [within] the specific community (Ontario Ministry of Education, 2009).

It is notable that the Ontario Ministry of Education has identified the need for environmental education programs to be developed within the context of the community. However, the responsibility to develop and implement these programs still falls in the hands of the educators and schools. This leaves low-income urban schools to face a unique set of circumstances when it comes to environmental education. In order to critically examine environmental education in the unique context of low income urban schools it is important consider the following themes: environmental education for teachers, place-based education, parents’ financial resources and ability to volunteer time as well as curriculum connections.

Environmental Education for Teachers

Teachers are “key agents of change” (Lin, 2000, p.1) and are the backbone of environmental education. Consequently, the notion of professional development in regards to environmental education is a reoccurring concept stressed in several pieces of academic literature I encountered during my research. This theme of professional development relating to environmental education can be further broken down into two
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components; pre-service teacher training and professional development for practicing teachers.

**Pre-service Training**

Although pre-service training has been recognized as a key component in implementing effective environmental education at many international conferences, Lin argues that in reality, environmental education in pre-service programs has been given little attention in Canada (Lin, 2000, p.1). This is unfortunate because

The preparation of pre-service teachers is especially critical in achieving environmental and ethical awareness. As well as in developing the values, attitudes, skills and behaviours conducive to a sustainable future (Lin, 2000, p.1).

The push for pre-service training focused on environmental learning can be still be seen in current policies created by the Ontario Ministry of Education. The policy *Acting Today, Shaping Tomorrow* “encourage[s] faculties of education to address environmental education in their pre-service curricula” (Ontario Ministry of Education, 2009, p.13).

Although there is a continued effort to include environmental education in pre-service training, a questionnaire distributed to all teacher education institutions in Canada in 2009 revealed that the number of institutions offering environmental education continues to remain quite low (Hanchet, 2010). The lack of pre-service training in environmental education places all educators at a disadvantage when trying to implement environmental education programs, especially teachers in low-income urban schools who already face a unique set of challenges.

**Professional Development for Practicing Teachers**

Research indicates, “professional development in environmental education can bring about significant shifts in teacher thinking about environmental issues” (Klein,
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2010). With research like this emphasizing the benefits of environmental education it is unfortunate that the only committed action for professional development in environmental education comes from the Ontario Ministry of Education stating they will "offer professional learning opportunities that develop field based pedagogical skills" (Ontario Ministry of Education, 2009, p.13). It is important that these opportunities are available but if school boards and individual education institutions do not actively encourage participation, teachers may overlook these professional development opportunities in order take part in workshops focused on literacy or mathematics.

Professional development in environmental education is not where it needs to be, as research shows "many teachers, while interested in engaging students in environmental education, struggle with successful integration, whether in the classroom or in a connecting students to out-of-classroom fieldwork opportunities" (Klein, 2010). Furthermore, I was unable to find professional development opportunities for teachers focused specifically on environmental education in low-income urban schools even though the Ontario Ministry of Education identifies that environmental education programs need to be developed within the context of this specific community.

Place-Based Education

Fundamental to environmental education is the notion that the subject matter needs to be relevant to the community and should include active investigation of local issues.

Hammond described his experience with environmental education in impoverished communities and emphasized the opportunities of place-based education. “[It] has worked for us because we used what we had even though it wasn’t much, and it
was the students who participated in the planning and the completion of the work” (Hammond, 2012). This example represents an environmental education program geared towards students’ grades 9-12 in a small, semi-urban area. Although this is an encouraging case study, I do not believe that all urban schools have the same opportunities when working with the space around them, as the environment may not provide the same resources.

Another article written by Fuller brings up an interesting perspective in regards to place-based education.

Most environmental education programs focus on wildlife and wilderness areas. However, fifty percent of the world’s population – and seventy percent of the US population live in cities. Therefore, the task at hand is to broaden the understanding of environmental education to include the urban environment where most people live (Fuller, 1998).

This is a very insightful outlook on the importance of place-based education in relation to environmental learning. The environmental education students receive who live in urban areas should reflect their surrounding environment and the strengths and weaknesses of the community. It is important to understand the value of studying the urban environment and the issues facing that specific environment, as it will allow students to actively participate in their communities in a critical and productive manner.

**Financial and Human Resources**

Teachers in low income urban schools are faced with several challenges that range from poverty, violence, cultural diversity, and a lack of parental support (Erskine-Cullen & Sinclair, 1996). These challenges are definitely not isolated to urban schools but the combination undeniably has an influence on the opportunities and resources available to teachers. Hammond, Klein and the Ontario Ministry of Education all emphasize the
importance of hands on field-based learning. However field trips/studies as well as many other hands on activities inevitably cost money. This is money that low-income families may not have and money that the teacher should not have to take out of their own pocket. Erskine- Cullen and Sinclair argue that as a teacher working in a low income urban school you need to know “what field trips are appropriate” (Erskine-Cullen & Sinclair, 1996). The financial resources at the teacher’s disposal can influence the environmental education program that teachers are able to implement. With so much emphasis on field based learning low income urban school teachers are at a disadvantage, without plentiful resources.

Human resources are also a factor mentioned in the article by Erskine-Cullen & Sinclair and Klein. A common theme associated with low-income urban schools is a “lack of parent involvement within the school program” (Erskine-Cullen & Sinclair, 1996). This can influence a teacher’s ability to organize fieldtrips or workshops, as additional chaperones are often required. In the Klein article, when a teacher was interviewed about her environmental education program she said

that about 60% of her curriculum is project based, and told us that the difference between project-based and expedition based learning is that in projects, "no other teachers are involved." Expeditions involve other teachers as an "integral part of it (Klein, 2010).

It is great that this teacher is able to incorporate project based learning on such a large scale but this quote also speaks to the fact that field based learning is a pedagogy that not all teachers have the opportunity to implement.
Curriculum Connections

Integrating environmental education into the curriculum was another theme seen across the literature. *Natural Curiosity: A Resource for Teachers* highlighted that “many teachers worry that the new policy framework on Environmental Education articulated in *Acting today, Shaping Tomorrow* means that [teachers] are expected to add yet another subject” (Chiarotto, 2011, p.3). Although *Natural Curiosity: A Resource for Teachers* is a formidable guide, I believe without professional training on how to effectively integrate environmental education into the existing curriculum, implementing environmental learning into your classroom could be quite a daunting task.

When discussing curriculum the Erskine-Cullen & Sinclair article brings up a very interesting point. The greatest challenge identified by teachers working at low-income urban schools is “dealing with the emotional needs of the students”. Consequently the article quotes “We just spend less time on curriculum and a heck of a lot of time on meeting the other needs. You couldn't possibly teach them how to multiply or read if they haven't got the basic essentials first” (Erskine-Cullen & Sinclair, 1996). Teachers already have a hard time meeting the expectations outlined in the curriculum so unless teachers are trained on how to integrate environmental education across the curriculum, it may not be a main priority for teachers working at low income urban schools.

During my research I also read articles with contrasting views in regards to environmental education and the curriculum. The Klein and Levey articles, as well as both *Natural Curiosity* and *The David Suzuki Curriculum* highlight numerous opportunities for cross-curricular connections to environmental education. The Klein
article argues, “environmental education is an effective tool for capturing students’
enthusiasm for learning in a range of subject areas” (Klein, 2010). In conclusion, I would
argue that there is huge potential for environmental education in low-income urban
schools if it can be implemented in an effective way. However teachers in low income
urban schools also face the challenge of creating an environmental education program
that not only takes into consideration the socioeconomic, cultural and ecological aspects
of the students, but also the varying academic ability within the class. The following is a
quote from the Erskine-Cullen & Sinclair that article highlights this specific challenge.

    Every student in the classroom is such an individual, and every time you plan
an activity you have to plan in such a way that the task is able to be done by
everyone in the room. If you have someone that reads at a Grade three level
and someone that reads at a Grade nine level, and someone who can do math
at a Grade 8 level, but only reads at a Grade three level, you have to plan for
these students. It's a way of planning that is open-ended, that can be modified
and individualized, so that each student can take it away and do at their level,
but their level is planned on their strengths and weaknesses (Erskine-Cullen
& Sinclair, 1996).

    Teachers in low-income urban schools definitely face a unique set of challenges
when trying to implement effective environmental education programs into their
classroom. Unfortunately, this is not an area of research that has received a lot of
attention. Academic research studies directly related to environmental education in low-
income urban-settings are limited. Furthermore, the articles I did find were often written
by practicing teachers writing about their personal experience with environmental
education, rather than large scale research endeavors.
Chapter 3: METHODOLOGY

Procedure

This qualitative research study, focused on environmental education in low income urban school, combines an in depth literary review of relevant literature with an analysis of transcribed interviews of educators who are currently teaching in low income urban schools. These educators are all actively trying to implement environmental education into their classrooms and curriculums.

I sought teachers from various urban schools located in low-income communities who were willing to be interviewed about their implementation of environmental education and relevant personal information. The interviews were scheduled at a time and place that was convenient for the participant. The interview questions were open ended so that the participants were able to expand their answers with personal reflections and experiences. The interviews were audio recorded so that they could be transcribed and later analyzed. I reviewed the transcripts first individually and then compared them looking for commonalities and differences in the participant responses. At the end of this process I identified six common themes and presented them in my findings.

Instruments of Data Collection

This research project collected data from semi-structured interviews. This interviewing format is structured in the sense that each participant is asked the same exact questions but participants have the opportunity to contribute as much detail to their response as they wish (Turner, 2010). McNarama argues that in order for interview questions to be effective “the wording should be open-ended, questions should be as neutral as possible, questions should be asked one at a time and questions so be clearly
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worded” (Turner, 2010). With these recommendations in mind here are some questions that I asked my research participants;

- What is the biggest challenge you face when implementing environmental education programs for students from low-income urban schools?
- What are some strategies you have used to effectively incorporate environmental education?

I also had the opportunity to carry out a case study involving three outdoor environmental educators. For the case study I slightly modified the question so they were more reflective of the participants’ role as an environmental educator as opposed to a classroom teacher. The case study followed the same semi-structured format that the other interviews did. One open-ended question was asked at a time and participants were given as much time as they needed to respond to the question. However the case study was more informal in the sense that not every participant responded to each question and participants would often build off of each other’s answers.

*A full list of interview questions and case study questions can be found in Appendix A and B

Participants

For this research study I sought participants based on the following criteria.

- Willingness to participate
- Currently teaching at a low-income urban school
- Actively trying implement environmental education into their classroom

In total I interviewed five participants for this research project. Initially I sought teachers who were currently teaching in low-income urban schools and who actively
implemented environmental education into their classroom, because my research study seeks to examine how environmental education programs are currently being implemented in low-income urban schools. In my search for participants I was put in contact with an outdoor educator in the GTA who was interested in participating, who had colleagues who were interested as well. Initially I was only planning on interviewing classroom teachers but I thought that the perspectives of outdoor educators could contribute to the breadth of my research. In total I interviewed two classroom teachers and three outdoor educators. Although five participants is a rather small sample size their responses effectively provide insight on how teachers are implementing environmental education into low-income urban classrooms in Toronto, Ontario. Furthermore, this research paper can hopefully act to stimulate further research on this topic.

The following are brief descriptions of the participants in the study. Although all participants have been given pseudonyms to maintain anonymity. Edward has been teaching for nine years, and has taught grade two, four, five and six. He is now currently teaching in grade six-gifted classroom. May has 8 years experience, mostly supply and LTO positions and is now teaching in a grade four classroom. May also has a theatre background. Lastly May helps to facilitate the Ecoclub at the school she is teaching at. Lisa is a supervisor at an Outdoor Education Centre in the GTA. She has sixteen years experience in outdoor education and was a classroom teacher for five years prior to role as an outdoor educator. Lisa also has an undergraduate degree in Biology. Rachel has three years practicum experience as the Outdoor Education Centre. She also has certifications in Canoeing, kayaking and low ropes. Amy has five years experience as an outdoor educator.
**Data Collection and Analysis**

The contributors in this study participated in a face-to-face interview that was approximately 45 minutes in length. The interviews however varied slightly in length based on length of participant responses. The interviews were audio recorded so that they could be transcribed for the purpose of analysis. Once the interviews were transcribed I read the transcripts focusing on identifying any common themes in the participants responses. I also made a chart outlining each question and each participant’s response. I also used different colour highlighter markers to emphasize important quotes and insights in the interview data. While examining the data I was constantly making notes for myself regarding findings I thought were interesting.

**Ethical Review Procedures**

In accordance with the ethical review procedures outlined for the Master of Teaching program at the Ontario Institute for Education Studies each participant received a consent form prior to the interview. I found participants for my study through networking. I asked individuals who I knew were supporters of environmental education if they knew anyone that would be interested in participating in a research study. Eventually I was put in contact with my five participants. Once face-to-face the participants were asked to read and sign the consent form (See Appendix C). Prior to starting the interview the consent form was reviewed and the participants were given a brief overview of the research topic and purpose of the study. The interviews were carried out at a time and place chosen by the participants. With the participants consent all interviews were audio recorded so that the interviews could later be transcribed. To ensure anonymity the participants were asked to create a pseudonym and were assured...
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that any project mentioned would be renamed. The audio transcripts were uploaded onto my personal laptop that is password protected and any physical notes taken during the interview were stored safely until they were electronically formatted. Lastly, prior to the interview it was emphasized to the participants that their participation was completely voluntary and there were welcome to not answer individual questions or stop the entire interview without consequence.

Limitations

There are several limitations to this research. First and foremost is the small sample size. Due to the fact that this research study is reflective of only five participants, their opinions and experiences might not accurately depict the opinions and experiences of all teachers implementing environmental education programs into their classroom. Furthermore, this study is also isolated to the City of Toronto, which should be taken into consideration when analyzing the findings.

This study also only interviewed teachers in low-income urban schools who are actively trying to incorporate environmental education into their classrooms, therefore this research study does not give insight as to how overall environmental education programs are being implemented in all low-income schools.
Chapter 4: FINDINGS

Introduction

In this chapter, I present my findings based on interpretation of data collected from two face-to-face interviews with practicing elementary school teacher and a case study with three outdoor educators all within the Greater Toronto Area (GTA). Before conducting the qualitative interviews I conducted a literary review focused on the implementation of environmental education in low-income urban communities. I had hoped to gain insight on how to effectively implement environmental education in low-income urban areas. Questions emerged regarding teacher education/support systems, place-based education in urban areas, curricular connections and the implications of socioeconomic status on financial and human resources. Furthermore, there was not a lot of research specifically on environmental education in both low-income and urban areas, so I created several interview questions with the intent of finding out whether or not socioeconomic status influences a student's ecoliteracy and whether or not teachers are taking, or need to be taking into account socioeconomic aspects of the community when developing environmental education programs.

In this chapter, I will present five themes that all research participants spoke to. The findings shed light on the importance of teacher motivation and interest, the need for learning to be grounded in the community, understanding + appreciating student experience, challenges teachers face, supports available to teachers trying to implement environmental education, and teaching strategies that participants have found effective.
The themes and findings of this research are as follows:

• Teacher motivation and interest

• The need for learning to be grounded in the community
  - Need for culturally conscious and relevant practice
  - Need for awareness of socioeconomic status
  - Considerations of geographic location

• Understanding and appreciating student experience
  - Students’ Past experience
  - Students’ experience with environmental education programming

• Challenges teachers face
  - Physical space
  - Time
  - “Getting people on board”

• Support systems available to teachers
  - Educational documents
  - Environmental organizations
  - Funding
  - Administration

• Teaching strategies
  - Experiential learning
  - Going outside
  - Awareness followed by action
Theme #1: Importance of Teacher Motivation and Interest

One commonality between all participants that I believe speaks volumes is the sense of passion they all had for environmental education. When asked “what made you want to include environmental learning in your classroom?”, Edward responded, “I just think it is one of these things that we have to teach and can’t afford not to. It’s not like something sparked me and I was like oh we should probably save the planet. It’s just obvious to me“ (Edward). He went on to say that it was one of the reasons that he was a teacher saying, “If you don’t really go into teaching wanting to change stuff what are you doing it for” (Edward). Edward further emphasized the point that passion plays a large role in whether or not teachers seem to be implementing environmental education “I think it really is just a question of people teaching environmental education who are passionate about it and people who are not” (Edward).

When asked why she incorporated environmental education into her classroom May had a similar response to Edward, it was a concept very important to her. She also felt that as teachers “one way that we can actually affect change is educating the youth of today about important issues”. Additionally, she pointed out that enlightening youth on these issues is a “huge part of our world as educators” (May).

Another interesting point that came from May’s response highlighted the idea that environmental education is not part of the curriculum. “Environmental education is a very key issue that isn’t apart of the curriculum necessarily.” So it is about finding ways to incorporate it in to the curriculum. Using the curriculum to explore these issues” (May). This quote also speaks to the fact that May makes a conscious effort to use the curriculum to support her environmental programming. This further Illustrates that interest and
motivation are both key factors associated with the implementation of environmental education.

Rachel also presented a strong passion and interest in environmental education when talking about her past experiences that have helped her as an educator. Rachel highlighted an interest and certification in canoeing, kayaking and low ropes. She also mentioned that she grew up going to summer camp. Rachel attributed her interest in working as an outdoor educator to her past experiences and that she wanted to share her” passion for outdoor education with more people than those who are able to do it at summer camps and March break camps and different things like that” (Rachel).

A theme of teacher interest and passion was confirmed when Lisa talked of things that have assisted her in the role of Supervisor at an Outdoor Education Centre. Lisa explained that she has always been interested in science, biology and nature. She also pointed out that she grew up next to a park with a creek and would spend every day there as a child. “So for me it has just been a personal interest in something that I have always liked to do” (Lisa). Lisa also mentioned that she went to university and received a Bachelors of Biology, adding in that she “was always interested in that line of work” (Lisa). While working in a classroom for five years, she mentioned that she just continually took the kids outside. Lisa's response supports a strong emphasis on both passion for the environment and interest in the area of focus.

**Theme #2: Learning Should be Grounded in the Community**

When analyzing the data it became apparent that all participants place importance on having their environmental programs reflective of the school community. Many of the factors the participants took into consideration when implementing environmental
education can be grouped into four sub-themes: Cultural Sensitivity and Relevancy, Socioeconomic Status and the Geographic Location of Both the Students Home and School.

**Need for Cultural Sensitivity and Relevancy**

Both Lisa and Rachel identified a need for teachers to be culturally conscious. Adding to that Rachel suggested that if possible teachers should try and relate environmental learning to different cultural experiences. She went on to give an example of a student who was examining a piece of bark. His mother was with him and was trying to compare it to something he could relate to. The mother told Rachel that they were from India and went back every summer, and that she was relating the bark to cinnamon, a spice that she uses a lot in her cooking”. This is a great example of how ideas and concepts can be related to cultural experience to provide greater understanding. As Rachel reflected on the example she said

I thought that was an awesome example and I am going to continue to try and pick up these kinds of experience and try using them when explaining different concepts. It’s so simple, I’ve used cinnamon all the time but I have never really thought of it as bark and relating it in that way, but it makes sense!

Lisa also brought up an interesting point in regards to cultural sensitivity. She explains that part of it is making a conscious effort to understand the different cultural backgrounds your students come from. The other part is acknowledging and appreciating the different values and beliefs they bring forth (Lisa). Lisa went on to discuss an example about dogs that is specifically relevant to outdoor education. “There are people from certain cultures that are not supposed to touch dogs, I will just acknowledge it and say that it is okay not to touch the dogs. We don’t want you too anyway. So just being aware of stuff like that”. Additionally, she went on to say if there is a student that can
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shed light on this cultural practice she will encourage the student to try and explain why to other classmates and use it as a “teachable moment”. This opportunity not only gives students a chance to share and learn about each other, it also can provide insight as to different environments around the world.

When asked if he thought socioeconomic influenced a student’s background knowledge of the environment, Edward highlighted cultural awareness and sensitivity. When talking about students going to camp during the summer or going camping he said from his perspective as an immigrant himself.

“I don’t think immigrants to Canada necessary participant in these activities to the same extent as Canadians who have been here for a really long time… camping is a very Canadian thing to do. I have friends’ from all over the place and they are all like “ I never started camping until I got to Canada”.

Edward concluded speaking to the fact that “it may not necessarily be a question of socioeconomic status, but rather cultural factors that can impact a students background knowledge of the environment”.

Need for Awareness of Socioeconomic Status

All participants of the study emphasized a need for teachers to be conscious of the socioeconomic status of the students in their classroom. Lisa raised an interesting point in regards to socioeconomic relevancy and the different ways we encourage environmental sustainability. “So, we talk to them about how we really need to save the environment and recycle and try and eat local, but for some students they are just focusing on eating period” (Lisa). Being conscious of socioeconomic status is necessary in order to provide relevant discussions and opportunities for action. Rachel also speaks to this point highlighting that a lot of students live in apartment building, and in downtown core condos that don’t necessarily recycle let alone compost. “So it’s important to not assume
that everyone has the ability to compost” (Rachel). In response to this idea Amy brought up an important point saying that no one should ever be chastised for bringing a lot of garbage in his or her lunch for example. First and foremost they need to make sure they get their lunch (Amy)!

May supported the notion that teachers need to be conscious of the socioeconomic status of the community they are working in. Taking it even further by saying “yes I think everything we do at this school we take into account who the students are and where they come from” (May). May highlighted a need for sensitivity especially in regards to fundraising. Working in a low-income urban community May said that;

this isn’t a school where you want to do a lot of fundraising and expect the students to come with money, and I think you need to be sensitive, and not even necessarily ask for that because that can make them uncomfortable. So it is always something to be conscious of.

May also brought up an interesting point in regards to the cost of more environmentally some friendly products or actions. “ Often the more environmentally friendly option is the more expensive route. So it is also about being sensitive to that” (May). I think both of these quotes speak to the fact that teachers need to be conscious of the ways they promote environmental awareness. May suggested that instead try to focus on more things they can do that are more cost effective, or for that matter cost saving like reducing energy use and waste and reusing whenever possible. These actions can be summarized as “ things that can actually align with the environmental impact that they create” (May).

On another note, Edward suggested that a student’s socioeconomic status could potentially impact the opportunities they have to interact with nature. “ A lot of these kids are sad when its holiday time because they stay home all summer. They will watch TV and their parents won’t let them out because it’s dangerous. It’s really too bad, a lot of
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these kids are lacking experience with nature” (Edward). Interestingly enough, Edward did not necessarily see culture and socioeconomic factors as a big part of environmental education teaching environmental education. “I don’t think [environmental education] it is be a bigger challenge for teachers working in low-income urban area I just believe that these students needed to be in a forest more, they are not in the forest a lot” (Edward).

Additionally, it was interesting to hear the perspectives of both May and Edward on environmental education for students coming from a middle class background. May stated that “there is a lot more motivation here, than at my previous school”. She recounted how at her old school student motivation was different and came from a monetary effort. “Here there is a different attitude, students want to do things but it is not coming from a monetary focus” (May).

Furthermore, Edward suggests that in fact some of the people who need to be educated the most are middle class students. “They know how to talk the talk but are the ones benefiting from the system” (Edward). Edward’s opinions emphasize that socioeconomic status is something that teachers need to be conscious of not only when working with students from low-income communities but when working with students from all socioeconomic groups. Furthermore, students from different socioeconomic groups may have different needs and experiences;

Kids coming from low-income communities don’t buy enough stuff to be hurting the environment. But they need to be in it more. There are implications to being from a low-income urban community in regards to ecoliteracy but I don’t necessarily think it automatically equates with lack of understanding. Middle class students often get to experience nature, but then with their gas guzzling cars and their electronics they are causing danger to the nature they enjoy.
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He then goes on to say that regardless of socioeconomic status you need to go beyond just talking the talk. “It’s not just about talking about recycling, we need to examine the consumerist lifestyle of our society is killing the planet” (Edward).

To conclude this section I would like to reference Lisa who does a good job of putting into perspective what being conscious of socioeconomic status should translate to as a teacher. “Socioeconomic status is something to consider when programming but it is important that you don’t make prior assumptions”. It is important to find out what the students know and go from there.

Consideration of Geographic Location

Several participants spoke to the importance of taking into consideration the geographic location of students’ home as well as the school and surrounding community implementing when environmental education. Rachel spoke to the fact that “knowing where the students come from is important. Knowing what area in Toronto they are from, will they be living in apartment buildings? Will they be living in homes? Do they have green space near them?” The answers to these questions can provide teachers with insights into where these students are coming from, and what prior experiences and knowledge they are bringing with them.

Considerations for geographic location extend to the school location as well. Lisa recalls talking to teachers who really wanted to get their kids outside and in nature, but just didn’t have access. On a positive note, Lisa highlighted the opportunities associated with public transit. “There are so many parks in the city that are available through public transit, you just need to figure out how to get there” (Lisa). Although geographic location can impact environmental programming it is important to remember “anything you do
inside you can do outside” (Lisa). The geographic location of school community is not a limitation just something that teachers need to be conscious of.

Edward also highlighted the importance of teachers being conscious of where students are coming from. “A lot of students are coming from neighbourhoods where there is no green space at all. They live in town house complex, or a lot of high rises. It is all paved areas” Moreover, he went on to say “even if they did have areas where they could possible go, they may not be safe”. Geographic aspects of the community are important for teacher to consider when implementing environmental education because expectations associated with programming should be sensitive to potential geographic limitations that may decrease student access to nature.

**Theme #3: Understanding and Appreciating Student Experience**

One concept that was repeatedly mentioned by all participants when discussing the needs of students in regards to environmental education was the importance of experience. This concept can be further broken down into students past experiences and prior knowledge and their experience associated with environmental education program that teachers implement into their classroom.

**Past Experience and Prior Knowledge**

One key finding addressed specifically during the case study of environmental educators focused on student comfort level in regards to the outdoors. When talking about the needs of students especially coming from low-income urban communities, Rachel highlighted the need to really “understand where [the students] are coming from and not assuming that everyone has the same comfort level with the outdoors is important”. The discussion went on to highlight that understanding the past experiences a
student has had influences the starting point and goals of the programming. These goals will vary for each group that visits the Centre. Lisa, the supervisor at the outdoor education Centre mentioned that

“Some kids, they have cottages, [or] they have they will have gone to summer camps, they have had [a variety of] experiences, maybe they live close to High Park, and their families go to the park on a regular basis, so depending on transportation issues, do you parents have three jobs? How many kids do you have? Can you get to those places? So just some of those things, the experiences that [some students have] provide them with prior knowledge about a tree, or a leaf or a squirrel [and it can make] a world of a difference. It just gives us a different jumping off point and we know where we can begin, I mean it’s endless where we can go from there. Because the kids are really interested and I have found that all of the students that we have are really interested in what we are doing and they are having fun and they are learning. So it is just a matter that we make those connections for them, so I think past experience is a huge thing to be conscious of” (Lisa)

During the case study another interesting point was brought up. The idea that student’s kinesthetic experience with nature can play a role in the activities she will feel comfortable doing. In the interview Lisa mentioned,

“Stuff like climbing on logs and climbing a tree. We are not aware, we don’t know the kids, and they come for one day. I have a seven year old, she can climb a tree like crazy and she can walk on a log and balance, where as we will have kids who have never ever done that, so we don’t know if their body awareness, physicality, not that they are uncoordinated, they have just never done that particular thing, or they have no concept, that if you step on this log it could be slippery or squishy. So even taking into account those kinds of past experiences. So you can’t make those assumptions at all. Every class is brand new, and start fresh, and then we can figure out where they are. But it can be a difficult thing sometimes to have a grade four class this day and a grade four class this day and the past experience they come with is completely different” (Lisa).

The case study identified several experiences that I had never even considered would play a role in a student’s comfort level with the environment. I think it is important to highlight these examples as they illustrate the extent of which past experience can impact student comfort level with nature.
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The following are two examples that highlight how past experience can impact a students comfort level with different living creatures. During the case study Rachel talked about how some kids will freak out when “they see a Gardner snake or you pick up a worm, or have a spider crawling all over you”. But that is important to consider what their experience with insects might be. “It could be a cockroach, and it might not be outside, it might be in their house”. Rachel went on to explain that it can be about breaking down some of those barriers or those pre conceived ideas of what nature and insects are. Dogs are another living creatures that can impact a student’s comfort level when outside. Rachel provided insight highlighting that there are dogs everywhere in Toronto. So when you are with students and you see a dog its important to understand that the experience may be different for everyone in the group. Moreover, it is important to acknowledge the situation and try and make the students feel safe by letting them know if you are nervous move away. So connecting to them and letting them know it’s okay that they are uncomfortable (Rachel).

This section highlights that there are many past experiences that can influence a students desire and level of engagement with the outdoor environment, and these should always be taken into consideration.

Experience with Environmental Education

The qualitative data from my interviews emphasized another facet of student experience in the specific context of environmental education programs. One aspect specifically highlighted by all participants was the need for environmental education to be delivered in relatable way. When talking about the students experience at the Outdoor Education Centre Rachel said that, “it is about focusing learning in a meaningful way so
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that they are able to have something that resonates with them and they can take it back with them to their classrooms where they can continue talking about it” (Rachel). This speaks to the importance of students being able to relate to what is being taught.

Edward also highlighted the importance of environmental education being relatable and relevant to students. Edward provided an example of how he explored expectations found in the curriculum through a relatable environmental lens that all students in the class could relate to. Edward posed the following questions to his class “What are we doing to ourselves when we spray Lysol all over the room? Is it good for us?” (Edward). The class then used petri dishes to explore the concept in a hands-on way. The questions presented students with the opportunity to examine an environmental issue in a way that affected them personally. The level of understanding possible through an opportunity like this demonstrates the importance of environmental education being delivered in a relatable way.

When discussing student experience with environmental education programs other terms brought to the foreground were “safety” and “preparation”. According to Rachel, “safety is the most important part of being outdoor educators”. Furthermore that in order for kids to get comfortable in the setting, it is important that students know that there are policies and procedures in place to ensure their safety. Safety as a main priority also emphasizes to the students “that there needs are always being considered during the whole experience.

Being prepared and preparing students was another concept referenced in terms of environmental programming. During the case study Amy highlighted the importance of preparing students for the outdoors. Letting them know the plan and what is expected
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regardless of past experience. “Students need an atmosphere where they can feel safe and comfortable to learn in” (Amy).

In terms of the students experience in environmental education programs one last concept touched on by participants was the need for everyone to have an equitable experience. Lori emphasized that teachers need to be prepared for their basic needs.

Like a lot of them come with out gloves, snow pants, shoes, so we have all these extra things that we are able to provide them. So that they have an equitable experience the same as everyone else. Just because someone needs gloves doesn’t mean that we should give gloves to everyone. We need to find who needs them and give them appropriate stuff they are comfortable.

Lastly, all participants expressed desire that ecoliteracy extend beyond the classroom into the school community and eventually translating into a student’s lifestyle. Furthermore, that it is this translation that essentially depicts the effectiveness of environmental education. During the case study, Rachel mentioned that she wanted the principles behind Eco-schools “to be a culture in all schools as opposed to just principals of the eco-club”. In reference to ecoliteracy translating into student home life, May reflected on instances where students will come up and tell her that before they were always telling their parents to turn off the lights and now they are also reminding the students. The translation into real life can be small but every instance is essential.

Edward also discussed the need for ecoliteracy to extend beyond the classroom. “I really think that we have to change the way we thing about everything, I mean is ecoliteracy just a product of environmental education or is it a lifestyle?” (Edward). All participants spoke to the need for students to have meaningful experiences and opportunities that lend themselves to deeper understanding and real change.
Theme #4: Challenges Teachers Face

One question I asked during the interviews and case study focused on the challenges teachers face when implementing environmental education in low-income urban communities. The answers provided could be categorized into five sub-themes: physical space, time, “getting people on board”, transportation and parent volunteers.

Physical space

During my interview with Edward, he referenced a great quote that I believe does a great job of introducing physical space as a possible challenge for teachers implementing environmental education in low-income urban communities. “The whole thing is that we are in the twenty first century and we are raising students in schools that were designed in the 19th century. Schools aren’t designed for what we are headed towards.” He goes on to say, “I like this school, but can we build something that breathes with the environment. It is so industrial and sterile. That is a big part of the problem. We build schools that are totally separated from nature”(Edward). This quote speaks to a disconnect from nature and lack environmentally friendly practices in educational facilities. This belief is supported by May as well, who discusses how the shelving units in her classroom blocked the heating vents and that she decided to take individual initiate to move the shelves even though it impacted the openness of the classroom.

Time

All participants of this study identified time as a challenge when trying to implement environmental education. Lori can be quoted saying “I really wish there was more time… it’s a balance, do we have more classes in, or give each student more time at the Centre to really make concepts stick”. Lori goes on to add that she has “ninety
classrooms on the waitlist” which attests to the time constraints and demand for outdoor education programming. Time also seems to pose a challenge in the classroom. Edward emphasizes this constraint stating as teachers “there are all kinds of social justice issues that we need to take on, but there has to be at least one unit that is environmentally based” (Edward). May confirms time as a challenge stating “I feel like there is so little time for all the stuff, you know all the ideas, I feel like there is so much that can be done, even just things like signs around the school for each recycling or on the photocopiers to press the energy saver button” (May).

“Getting People on Board”

“Getting people on board” was another challenge mentioned by both Edward and May. Getting people on board applies to both teachers and students. May highlights an experience where she had difficulty getting students on board. At a school May previously taught at she said, “they tried to have an eco club and 1 person would come in a school of 700. So it was pretty disheartening”. May then goes on to provide two examples where she had trouble getting staff on board. She talks about how in the office she would set up a bin for paper that is still usable on one side, “but people would continue to just throw it in the garbage” (May). Another example May provided references the school she teaches as presently. May discussed that they recently had an eco-audit, as a requirement to obtain platinum status with EcoSchools and one of the recommendations was that they reorganize their classrooms so that the heating vents were not blocked. She went on to quote a colleague who said “well that’s not my priority; I need to have my shelves over there. To be honest I don’t really care” (May).
Ontario EcoSchools is an environmental education and certification program for grades K-12 that helps school communities develop both ecological literacy and environmental practices to become environmentally responsible citizens and reduce the environmental footprint of schools (Ontario EcoSchools, 2014).

During his interview, Edward also touched on this concept raising the question; Why aren’t teachers doing it? And that’s the tough question, that is the uglier question and maybe its because teachers don’t really care as much. It’s not top priority. They are thinking about EQAO more than anything else. It’s not a one or the other you know what I mean (Edward).

This quote lends itself to the challenge of getting staff on board as well as the idea that environmental education is not a top priority for some teachers.

Parent Volunteers

Parent volunteers are another challenge mentioned in both individual interviews and the case study. When asked if parent volunteers were an issue in regards to fieldtrips Edward said, “For the kids whose parents are working two jobs, for sure it is really hard… finding volunteers can be a problem for field trips when working with kids with lower economic status” (Edward). Lisa a participant of the case study also mentioned parent volunteers as a challenge when working with students with low socioeconomic status. “A lot of low socioeconomic schools will have fewer volunteers, because they [parents] are not able to take the time off of work to come for a field trip. Or they have younger kids at home, or they are taking care of parents, or all sorts of things.

Theme #5: Support Systems Available to Teachers

One sub-question of my research is “What support systems are available for teachers implementing environmental education in low-income urban schools?” After analyzing the qualitative data I obtained, support systems became a strong theme within
my findings. The answers participants gave in reference to this question can be categorized into four groups: Educational Documents, External Environmental Programs/Initiatives, Funding and Administration.

**Educational Documents**

The Ontario curriculum is a foundational document that guides the educational programming in Ontario. The following are perspectives of participants when asked if they viewed the curriculum as a support or barrier in regards to their environmental education programming. All participants responded to this question depicting the provincial curriculum as a support. Edward passionately argued that

No, the curriculum does not act as a barrier, you don’t need to be straightjacketed by the curriculum, and I know some people use it as an excuse. But it is such an environmental curriculum. And if it’s not in there, do it anyways. Any teacher that doesn’t do something because it’s not in the curriculum is seriously lacking in imagination. I tie it in, I do whatever I want… if you don’t have an imagination the curriculum is going to seem very close ended and restrictive (Edward).

Rachel’s perspective on the curriculum is similar to Edward’s. Saying, “everything can be connected, you just need to find a way and that it is about knowing the curriculum and the specific expectations”. Rachel also went on to discuss that when you are writing goals you are not going to hit every expectation, “I am writing but its about focusing it in a meaningful way so they are able to have something that resonates with them and can take it back with them to their classroom and they can continue to think about it”.

A commonality between these two responses is that neither participant is limited in the classroom by the curriculum. Suggesting that the curriculum is a supporting document for ecoliteracy. Lisa, a supervisor at the Outdoor Education Centre provided further insight on how the curriculum ties into their programming stating “I think that we
always have the curriculum in our pocket, we want to make sure we are supporting the learning that goes on back in the classroom. We try to infuse the curriculum in everything that we do, so it’s a balancing act” (Lisa).

May’s perspective on the curriculum has similarities to but did not really align with what the other participants said in regards to the curriculum. “I would say the curriculum acts as neither a support nor barrier. It’s basically up to the teacher to figure out what or how to implement it. It’s not in the curriculum so it is not a support…but not a barrier either because there is a leeway” (May).

In addition to the curriculum, an educational document titled *Scope and Sequence* was mentioned during the case study, which compliments the curriculum as a support for environmental education. Rachel provided insight on the document explaining that the document highlights every expectation in the various curriculum documents that is linked specifically to environmentalism and stewardships. Its really succinct and just cut them all from language, literacy, social studies not just science so it is all-together in one document… [It] helps you make it cross-curricular connections as opposed to just relating to science and social studies (Rachel).

**Environmental Programs and Initiatives**

Both classroom teachers made reference to the use of additional environmental programs and initiatives that compliment the existing environmental program they have already developed in their classroom. Edward mentioned a Voyagers Club at his school that every couple of months takes students out on long hikes. He also mentioned that he takes his class to Education Island, which is another Outdoor Education Centre and that he takes his students on “three trips to the High Park Nature Centre, you pay for two and get the third one free” (Edward). When May was asked about support systems available to her as a classroom teacher she immediately said
EcoSchools is great...They have so many ideas, because everyone is doing different things, and finding out what other people do is huge when developing your own program... They have a lot of demonstrations of what other schools have done. They have so many resources, and things like film festivals for schools and stuff that helps to get students engaged and excited. I would say EcoSchools is the biggest resource for classroom teachers!

EcoSchools was mentioned again during the case study by Lisa who said “we encourage all of the schools [who visit] to become EcoSchools ”. When asked if most of the schools who came to visit are EcoSchools, her response was “Most of them are, yes. There are a few that are not, but I think the expectation is, by 2015, everyone has to become [an Ecoschool] whether it is bronze, silver, gold or platinum. So we are encouraging them to try, to start doing things to get that Ecoschool status… Every year it’s more and more and more” (Lisa).

Additionally, she went on to explain the many ways in which staff of the Outdoor Education Centre try to support classroom teachers.

We provide post activities for a lot of our programs, not all of them but a lot of them... I lend out equipment if teachers want...If we don’t get to do part of a lesson we give write up and how to do it...we will email them resources, information if they are interested. You can tell if a teacher is really wants to continue doing that and then we will support them in any way we can (Lisa).

Building off Lisa’s response, Rachel went on to discuss that many of the activities they do at the Centre are developed with the intention that teachers can go back to school and do these activities in their own schoolyard, even if it is solid pavement (Rachel). Ending the conversation Amy chimed in saying “we try to be very supportive and very available”, confirming the idea that outdoor education Centres are definitely a support system available for practicing teachers trying to implement environmental education.
In reference to support systems, funding was mentioned during both individual interviews and during the case study. Both classroom teachers had similar things to say in regards to funding, and to put it simply funding was something that neither of them was really concerned with. “I think that there is some [funding] available for the EcoSchools club set aside in the school budget, but we haven’t needed anything so far so I am not really sure. I think we might be getting some funding for Earth Week, but again I am unsure” (May). Additionally, May also stated that there are many opportunities to obtain funding for environmental programs outside the school board, references a Staples contest that the school had applied for, where applicants had to submit how they were teaching environmental education. Staples offered the winner a prize of a $2500 computer lab, showing that the community also cares about ecoliteracy.

Edward had a similar notion in regards to funding;

I don’t think is costs anything. Nature is free. All you have to do is step out and take it. It sounds like I am against funding for environmental education, but I’m not. It’s just that it is the cheapest thing. We could save so much money if we actually step outside once in a while, instead of always being on the Internet or creating power points (Edward).

Both participants supported the notion that funding is not something that is necessary when trying to implement environmental learning into your classroom.

In contrast to the classroom teacher’s responses on the concept of funding, Lisa, the Outdoor Education Centre supervisor, identified funding and subsidies as a key aspect of the Centre and the opportunities it provides. “First of all, we are heavily subsidized. Well I should not say heavily, we charge the schools, but it is at a very reasonable rate,
for all of our schools, and our rates are influenced by the Learning Opportunities Index” (Lisa).

The Learning Opportunities Index (LOI) is a system that “ranks schools based on measures of external challenges affecting student success” (TDSB). The index looks at the income levels of the families, how many people are living in the house or home, parent’s educational background; there are several factors that the index takes into consideration (Lisa). The school with the greatest level of external challenges is ranked number one and is described as highest on the index. “It is important to acknowledge that students in all schools have some external challenges, even those schools that are ranked very low on the LOI” (TDSB). After explaining what the Learning Opportunities Index is Lisa went on to stress that

the majority of the schools that come to the Centre fall low on the LOI. Additionally, that the Centre works with the most schools that are below 150 on the LOI out of all the day Centres in the city. The subsides provided to schools that are between 1-150 on the LOI are only charged $3 per student as opposed to the $7.50 that most students pay.

To demonstrate the extent of which subsidies impact access to the Centre, Lisa went on to explain the implications in regards to overnight trips. Saying that subsidies also apply for overnight centres.“ For Monday to Wednesday it is normally $75, which includes meals and everything. But LOI schools (1-150) they charged only charged $25” (Lisa).

The range of participant responses in regards to funding highlight that although funding may not play a huge role within the classroom, subsidies are available for schools that fall low on the LOI providing opportunities for students coming from low-income families that may not otherwise be possible. The participants’ responses confirm that funding is a neutral aspect to environmental education.
Administration

Although only one participant spoke of administration in regards to support systems available to teachers, I think it is important to acknowledge what she said as she had contradictory experiences. When talking about her present school May said, “the Vice Principal was very supportive of environmental education but “that is not always the case. A lot of the times that is not the case, there is not much support because it is not high on their priority list” (May). When discussing her experience at another school she said “ there was no support from administration, for example you would walk into the office and there would be blank paper in the recycling. Just stuff like that is so frustrating and unnecessary. So I would make signs about where things should go and they were just ignored”. May’s response emphasizes that administrative support is very specific and variable to individual schools and administrations.

Theme #6: Teaching strategies

As the participants discussed their environmental education programs several effective strategies were brought to the foreground. These strategies help to provide insight on how to effectively implement environmental education in low-income urban communities. However these strategies can also extend beyond this specific community and benefit all teachers in general. These strategies include: experiential learning, going outside and awareness followed by action.

Experiential Learning

I will begin this section with a quote for Edward. “Its not what you teach, its about what they learn”. All participants referenced the value of experiential (hands on) learning either explicitly or through examples. When asked what strategies he thought
were effective when teaching environmental education Edward replied, “I think they have to do stuff”. Throughout the interview, Edward provided several examples of various ways he provided student with the opportunity to experience what was being taught. One strategy he emphasized was role-play. During a trade unit, his class looked at Canada’s connection to the world, and the fact that we are an energy rich nation. Questions regarding the Tar Sands emerged. Because there are so many different perspectives on the issue the class had a debate so the students hear all the different points of view.

They need to see the complexity of it. That is definitely one of the big things, as far as I don’t know if it is a strategy but they have to understand the complexity of it. Because if they see it as something binary and don’t achieve something right away. They just are going to give up. They have to see that these are what are called wicked problems and they are things that cannot be easily solved (Edward).

Role-play provides students the opportunity to immerse themselves in different perspectives. Edward spoke about one student whose dad was a big environmentalist and came into the class saying, ”I hate the tar sands!” He went on to say “I chose that students to take on the role of Steven Harper. What is he going to learn if he given the role of Anti-tar sands activist. He might still come out hating the tar sands but he will have a better understanding of the other side is”. This example speaks to the power of role-play as a form experiential learning and demonstrates the opportunity for deeper understanding associated with doing rather than listening or watching.

During the case study Lisa also emphasizes the opportunities that come from experiential learning especially at an outdoor education Centre.

I think the opportunity here lends its self to a whole different style and type of teaching. I know I have mentioned the importance of inquiry, and here there are opportunities for discovery and it’s so open ended. The kids
can then talk about what interest them. It’s so wide open. That when we have our magnifiers out and we are rolling over logs, and the kids find different things. “Oh hey look what I found” and then they will call over their friends and there is sharing. The whole openness of it that they can become the next expert. So for the kids who have never experience playing in the dirt and getting dirty, its huge. And that’s the other thing, some kids will say “I shouldn’t touch the dirt, and I will say “yes you can, when we go back we will wash our hands before lunch. It comes out in the wash. Its fine.” This kind of experience lends itself to a different style of learning. And some of the kids haven’t been able to tap into all of their multiple intelligences. There is a naturalistic multiple intelligence and some students may have never had the chance to have these experiences and tap into that intelligence. So you know I think, are all of a sudden the kids will be “ahh I learned so much, that was so cool” I think it happens with all of our learners.

Sometimes it takes getting dirty to discover real meaning. Rachel and May both mentioned waste audits being carried out at schools in the GTA. Rachel talked about her experience at a practicum in a “low socioeconomic school high on the Learning Opportunity Index”. She explained how they carried out an Eco audit of the schools garbage. The students went through the garbage and sorted and classified it. It was a whole school thing and the grade one and two classes came down and watched the grade six class sort through the garbage. It is also important to note that Rachel used role-play as well to make the whole experience more engaging.

I spun it, as we are being detectives trying to figure out where the garbage came from so we could create signs and posters to try and minimize the recycling in the garbage. So making it fun and engaging and related, not yuck garbage. Instead making it more of a positive thing, and they really enjoyed it!

The positive feelings students had towards the waste audit in Rachel’s experience do not seem to be unique. May discussed similar student responses when she helped facilitate a waste audit at her school. She said that the students were given gloves and scales and
sort through the garbage and recycling of six classes. As May reflected she talked about how all afternoon her kids were really excited and wanted to see the results.

I feel like if you can get kids excited about sorting through garbage what won't work? The kids are so enthusiastic! There was one kid out of twenty who was not in to it. I was expecting maybe a couple of them to say yes but they all were in to it.

Both of these examples demonstrate how eager students are to really be hands on and experience things in a physical way.

From the qualitative data I collected from my research there is one more example Edward provided that really speaks to the effectiveness of experiential learning as a strategy for environmental education. This example also speaks to the benefits of integration and cross-curricular programming.

During the interview Edward talked about a unit he did on biodiversity with a focus on monoculture emphasizing that “if you are talking about the dangers of monoculture you have to talk about biodiversity. I mean you can’t talk about poverty if you don’t talk about the wealth that very few people have”. The unit involved three cases of monoculture; monoculture of corn, monoculture of urban trees and monoculture of bananas internationally. Although not all the case studies were local, the concept was also positioned in a local context. “This is a pretty concrete area, but we have to be able to find something to study, and we were looking at” Edward said as he explained how the class went on a walk around the block looking to see how many different kinds of plant we could find. “And we didn’t know what they were called, but it didn’t matter” Edward reflected in the interview. This quote specifically highlights that experientially learning isn’t so much about the specific facts but about the experience. Edward continued on explaining the second half of the unit and that the field trip was two-folded. How first the
class went to City Hall to look at the green roof because the culminating task for the class was competing pitches for a green roof at their school. Prior to that, the class looked at species that were native and might have been extirpated and plants that were natural to our environment (Edward). The second part of the trip was a trip to Kensington Market.

Instead of just eating apples, bananas and oranges we went to Kensington market ate lunch and bought a bunch of fruit and had a fruit potluck. We bought a durian, one of my students actually brought this back for me. It is famously smelly. It is actually not allowed in some countries. It’s really stinky. But I think ours wasn’t as good because a women in line was like “you buying that here they are not really good they are not stinky enough”. It was horrendously bad. People could smell it down the hall. It was really cool the place was just full of fruit. You know you just have to do stuff like that. These kids don’t lack the desire to do things just lack the opportunities to do a lot of this stuff. So you have to do stuff with them instead of just have them read this and answer these question. What did you just achieve? They wont remember anything. But if you have a fruit potluck, they will always remember that stuff. We ate sugar cane and star fruit and dragon fruit and Pomello and all that stuff.

This is a powerful example of experiential learning and depicts how this strategy can be effective when trying to implement environmental education.

Going Outside

Another suggestion that both Edward and all participants of the case study emphasized was the importance of taking students outside. I think it is important to acknowledge the meaning of the term outside, it does not suggest that you have to be in a park, it means stepping outside of the school building into whatever environment is present, “even if it is just to get them out into your paved school yard to do some measuring or observation or sketching. Change it up everyday, for a small period. Just extend it and extend it”. When asked is she had any suggestions for classroom teachers Lisa responded, “take your kids outside regularly. Start off small, you might only go outside for the first couple times for 10 or 20 minutes. And as they get used to it, you can
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go out for longer. Start right off in September, all you need is a community walk form!” (Lisa).

In regards to effective strategies, Edward had a similar suggestion “go outside, look at the environment and be in the environment, I mean everyone has to see that nature is outside. Because if you think you have to go to a park to be in nature, we are in big trouble, big, big trouble” (Edward).

The value of taking students outside as a teaching strategy can be summed up by a quote from Lisa during the case study. “It is very important to me if for students to experience. Have them get outside and experience their world, so they develop that love and want to go back outside and do some more learning” (Lisa).

First Awareness then Action

A strategy highlighted by all the participants of this research study was raising awareness before action. The following is a potential scenario that Edward told his class that provoked interest, awareness and eventually actions. He explained how he had seen a documentary that he proceeded to tell his class about. The documentary presenting the possibility that by 2053 our oceans could be completely fished out except for maybe a few fish floating around here and there. The possibility hit home for his students and by lunchtime they were thinking how they could fundraise. To speak to the students interest Edward confirmed the need for action “there has to be like a “do”. Because if all doom, how we are messing everything up, the kids just feel like guilt”. However, Edward emphasized the need for awareness before actions.

But you know we need to do more than just fundraising, because I think fundraising is like one of these things like clicktivism. I have sold some muffins and now I am going to give the money to somebody else who is going to do the real work and I am just going to go back to my same
lifestyle. So I don’t like kids to raise money unless they are going to raise awareness.

The following are opportunities Edward provided for his students to facilitate awareness prior to action. The first opportunity Edward developed was a role-playing so that students could gain a well-rounded perspective on fisheries. He explained,

the whole idea was that I wanted them to see that it wasn’t a binary issue of like do or don’t. Its all kinds of competing points of view, the thing I will never forget was when the student in role as a green peace activist during the debate was like “its okay to hunt seal as long as it is sustainable” and the PETA person was like it is never okay to kill animals!”. It was cool that they got to see that the environmentalists don’t always agree. So that is super important. And they had to stay in role because there were all these stages they had to go through before we got to the bulletin board.

This kind of programming gives much support to experiential learning, and more specifically role-playing as a teaching strategy discussed earlier in this report. The second opportunity Edward provided his students was to help construct a bulletin board out in the hallway. When talking about the use of bulletin boards Edward said, “I like doing bulletins boards when there is a process there, and the kids can learn about the topic together and it is actually part of the creation of the unit they’re learning”.

We did a bulletin board where first we had to create like a watercolour as a group, just with a simple transparent wash. And then what are we going to put in our ocean, we put in all these beautiful fish and plants and all kinds of things. So that was the first week and then the second week we destroyed it. And we tacked on plastic water bottles, because we also talked about the gyres that are filling up in the Pacific Ocean with water bottles. And once they heard about that they were like “what are we doing?” (Edward). And we put oil spills on it. And students from other kids watched as we did it. And you have to put facts in there too, so we put in all these interesting facts about the oceans. And then next is to destroy it. So what are we doing to it? So more facts were added and then eventually we covered it with a fish net. And then the last step is okay so what can we do now.

The use of a bulletin board in this way promotes awareness in those that are creating it as well as for students who are walking by. However awareness did not stop there in this
example and neither did student action. Edward proceeded to explain how the class by request organized a bake sale. One important aspect of the bake sale was with every treat sold the buyer also received a complimentary fact about the ocean to help breed awareness about the environmental degradation that is taking place in our oceans.

May also referenced the need for awareness to precede action. May described how the class created a film that they are submitting to the UN World Environment Day Film Festival. First they had to do a bunch of research, and then they began talking about how they can affect change. Students came to the realization that spreading awareness is a way for them to affect change. May reflected on the project saying, “the students were really engaged and excited and pumped to see the final product. We are waiting on one media release and then we are going to post it on YouTube so we will be able to share it” (May). This example not only emphasizes the importance of awareness before action. It also speaks to the spreading of awareness as a form of action students can carry out.
CHAPTER 5: DISCUSSION

Introduction

The purpose of this study was to explore how environmental education programs are currently being implemented in low-income urban communities, with hope to gain a better understanding on how to effectively program for this specific population. The Ontario Ministry of Education document Acting *Today Shaping Tomorrow* outlines “there is no universal model for the implementation of environmental education and that implementation should be defined by a local context” (MOE 2009) The document highlights the need to take into account the environmental and social economic conditions that exist in the community (MOE). Through interviewing practicing educators delivering environmental education in their class and educators from an Outdoor Education Centre I have gained insight on how educators are taking into account cultural, environmental and socioeconomic factors of the community and what it looks like. I also gained a better understanding of some of the challenged teachers face when trying to implement environmental education in low-income urban schools and strategies that educators have found effective.

It is important to note the findings of the research are limited by my interpretation of the qualitative data I obtained and the small sample size. Furthermore, in order to gain better understanding of how programs can be effectively delivered in low-income urban communities I looked for teachers who were trying to implement environmental education. As a result, my findings likely do not accurately depict how environmental programs are being implemented in urban areas on a larger scale. Instead they can provide insight on the topic and hopefully further academic discussion.
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There were five major finding that emerged from the data I collected. First, that all participants expressed that environmental education was something that they were very passionate about and interested in. Suggesting that the teacher’s perspective and interest in environmental education may play a large role in implementation. The second finding to emerge from the data was the perspective that environmental education should be grounded in the community. Participants spoke to the need for culturally conscious and relevant practice. Participants also emphasized the need for teachers to take into account socioeconomic and geographic aspects of the school community. A third theme found in data proposed that teachers should understand and appreciate student’s past experiences and knowledge in regards to the environment as well as their experience with environmental education. Another theme presented in the data is challenges teachers face trying to implement environmental education. Complimenting that, support systems available to teachers was another theme that appeared in the data. The last theme that came from analysis of the data revolves around teaching strategies that participants have found effective.

Relation to the Literature

There is a strong relationship between the between the themes discussed in the literature review and the data collected through my interviews and case study. The questions I used in my data collection were developed from insight and questions I had from literature on the topic. I hope the findings in my research help to continue the discussions on environmental education.

One key finding from my research is the reliance on teacher motivation and interest. All participants expressed a strong interest and passion for environmental
education. “Its just something that we have to teach, we cant afford not too” (Edward). The participants’ passion for the subject seemed to drive their focus on ecoliteracy. Unfortunately not everyone seems to share this passion. “Getting people on board” was a challenge that May spoke about during her interview. Edward’s also supported the notion saying. “I think it comes down to people teaching environmental education who are passionate about it and those who are not” (Edward). If the success of environmental education is heavily reliant on teacher interest, environmental education may continue to only then be supported in some classrooms. The question then becomes, how can we inspire interest and motivate teachers to implement environmental education in their classrooms?

In my literature review several pieces of academic literature stress the importance and need for professional development for environmental education. Klein argues, “professional development in environmental education can bring about significant shifts in teacher thinking about environmental issues” (Klein, 2010). Lin extends the dialogue suggesting that pre-service training is essential and “achieving awareness, as well as in developing the values, attitudes, skills and behaviours conducive to a sustainable future” (Lin, 2000. P.1). As a result, I believe my findings shed light on the need for pre-service and professional development, so that ecoliteracy is a priority in all classrooms. Additionally, professional development opportunities in environmental education need to target and focus on teachers who are not actively seeking them.

Another finding of my research is that teachers should be aware and considerate of past experiences and/or lack of experiences students have with the environment. However there is a possible danger of viewing this as a pedagogical approach. Students
do not always need background information in order to explore different concepts. When discussing with my Advisor, he brought up an interesting point suggesting that students should be invited to learn through problems rather than having to learn about the issue before being invited to think. As a result, I think it is important to highlight that it is essential that the perceived lack of background knowledge does not impact an opportunities for inquiry or cause teachers to be hesitant to explore certain concepts. Moreover, the consideration of students past experiences to act to help teachers address the individual needs of each student.

During my literature review I also found research supporting the importance of placed based learning. A concept that emphasizes the need for subject matter to be relevant to the community and should include active investigation of local issues. Fuller suggested that there is a need to “broaden the understanding of environmental education to include the urban environment where more people live (1998). Edward also held this belief; “I mean everyone has to see that nature is outside. Because if you think you have to go to a park to be in nature, we are in big trouble, big, big trouble”(Edward).

Environmental education includes learning about both built environments and natural ones. All participants perceived an importance for learning to be grounded in the community. There was a consensus among participants that teachers need to be conscious of the culture, SES and geographic aspects of the community. For example, all participants spoke to the importance of teachers being conscious of the economic status of students when programming. May talked to this point in terms of fundraising;

this isn’t a school where you want to do a lot of fundraising and expect the students to come with money, and I think you need to be sensitive, and not even necessarily ask for that because that can make them uncomfortable. So it is always something to be conscious of.
The perspectives of the classroom teachers I interviewed are similar to stance Erskine-Cullen and Sinclair take, suggesting that as a teacher working in a low-income urban school you need to know “what field trips are appropriate” (Erskine-Cullen & Sinclair, 1996). Lastly, I think it is important to point out that participant’s beliefs towards the need for community specific programming are in support of the stance taken by Ministry of Education; that environmental education “must be defined locally to meet the differing environmental, social and economic conditions that exist [within] the specific community” (Ontario Ministry of Education, 2009).

On a side note, it is interesting to point out that neither classroom teacher felt that funding acted as a big challenge. Edward emphasized:

I don’t think is costs anything. Nature is free. You know what is expensive paying for these crazy laptops, and books and Ipads. Nature is cheap. All you have to do is step out and take it. So again it sounds like I am against funding but I am not. It’s just that it is the cheapest thing. We could save so much money if we actually step outside once in a while, instead of always being on the Internet or creating power points.

Moreover, May highlighted that there are grants that teachers can apply for, and at her current school there is some money put aside for environmental education in the budget. Suggesting that funding from the side of the board may not be an issue. This claim is also supported by the subsides Lisa explained are provided to schools that fall between 1-150 on the LOI index. As a result, funding may not be a huge factor in implementing environmental education as suggested in my literature review. But more importantly teachers need to conscious of the SES of the community they are working in in order to better understand the needs of each student.
In order to provide meaningful opportunities for environmental inquiry, it is critical that learning is grounded in the community. However, Sinclair argues, “teachers in low income urban schools are faced with several challenges that range from poverty, violence, cultural diversity, and a lack of parental support (Erskine-Cullen & Sinclair, 1996). All of these challenges were also present in my qualitative data. All participants said that parental support in the form of parent volunteers was sometimes more difficult when working in low-income urban communities. Furthermore, that safety and access to green space in some communities can influence students’ opportunities to be outside. Edward talked about how “a lot of these kids are sad when its holiday time because they stay home all summer. They will watch TV and their parents won’t let them out because its dangerous…a lot of these kids are lacking experience with nature”. Even though environmental education includes learning about both built environments and natural ones I believe this is demonstrates a greater need for students coming from low-income urban communities to have opportunities to be in nature. I would still argue that that these challenges speak to a greater need for environmental education in low-income urban areas. Students coming from these communities may not get to experience the natural environmental in ways that children of privilege do. Yet are still affected and impacted by the environmental degradations that is taking place on our planet.

However, Edward brought an interesting perspective to the table. Suggesting “some of the people that that need to be educated the most are middle class kids”. That it is the middle class who are “who are doing the danger, to the natural environment they enjoy” (Edward). Ironically, children coming from low-income urban communities who most feel the effects of poor air quality and have beaches closed by poor water quality.
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This suggests that it is in everyone’s best interest to take action towards a more sustainable and healthier planet. Furthermore, I think this speaks to the greater need for all students to become ecoliterate citizens.

Yet a moral obligation to ecoliteracy is not a new idea. In *Acting Today, Shaping Tomorrow* the government makes “a commitment that environmental education, as defined in *Shaping Our Schools, Shaping Our Future*, will be part of every child’s learning and that responsible environmental practices will be fostered across the education system” (MOE 2009). So where is the disconnect coming from?

The disconnect may be coming from the current relationship between environmental education and the curriculum. During my literature review several pieces of literature highlighted the opportunities for environmental education to be cross-curricular. Edward also pointed to the importance of cross-curricular connections, “the world is cross-curricular. What is a newspaper? What subject does that fit it? That doesn’t fit in anything its called the real world”. Edward provided several examples of cross-curricular units with an environmental focus that he has done with his classes over the years. Edward went on to say that it is a very “environmental curriculum… the curriculum ties to everything ”. However not everyone may have this perspective as literature suggests that “many teachers worry that the new policy framework on Environmental Education articulated in means that [teachers] are expected to add yet another subject” (MOE, 2007, p.17).

Moreover, May said that the curriculum acted as neither a support nor a barrier. “It’s basically up to the teacher to figure out what or how to implement it. It’s not in the curriculum so it is not a support, so I would definitely not a support but not so much a
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barrier because there is a leeway”. However, one commonality between all the participants’ responses was that they found there were many ways to incorporate ecoliteracy into curriculum expectations. And environmental education doesn’t need to be a subject all on its own as the literature highlighted many teachers are concerned about.

I think it is important to highlight, that May a teacher actively trying to implement environmental education did not perceive that it was necessarily apart of the curriculum. Even though Acting Today, Shaping tomorrow a document put out by the Ministry of Education in 2009 says that “environmental education as defined in the document will be part of every child’s learning and that responsible environmental practices will be fostered across the education system” (p.3). This may suggest that the disconnect falls on the commitment made by the government to environmental education and its representation in the curriculum documents. Furthermore, there is a need for clearer expectations in regards to the implementation of environmental education in every classroom.

Implications

As a first time researcher this was an enlightening opportunity. I am extremely interested in environmental education and having the chance to interview several education that are passionate about the subject was really inspiring. It was amazing to hear about what they are doing in their classrooms and the real discussions they are having with their students on environmental issues. The whole experience showed me what it really means to implement environmental education. Furthermore, that Eco literacy is not something that is taught but is rather an informed perspective or view of the world that is developed through inquiry and exploration.
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In a broader sense, this research paper provides insight on the need for environmental educations programs to be created in the context of the community. Educators need to be aware and considerate of the SES status, cultural diversity and environmental and geographic aspects of the community. Furthermore, this study provides real life context to how these are being taken into account.

Findings of this study highlight some of the challenges educators face when trying to implement environmental education in low SES urban communities. Furthermore, that the challenges students face coming from these communities highlight a greater need for environmental education in these neighbourhoods. On a larger scale, based on interpretation of the data collected that I believe there is a perceived and/or real disconnect between environmental education and the curriculum. Suggesting a need for further research on this idea.

Lastly, this study provided readers with several strategies that participants of the study found effective. And I think May said it best “talk to people who are already doing things. Don’t feel like you have to reinvent everything. That is the one [great] thing about being a teacher.

Limitations

This study provided a forum for which practicing educators could discuss their experiences implementing environmental education programs for students living in low-income urban communities. The findings presented in this study are reflective of the personal experiences and beliefs of my participants. As a result, the findings of this study are reflective of educators who are actively trying to implement environmental education. Therefore this study does not reflect the large picture of how environmental education is
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currently being implemented in urban areas in the GTA. Another limitation of the study is a small sample size. Additionally, this study is lacking the student perspective on the represented environmental education program. Nonetheless, the study helps to further the discussion surrounding environmental education and more specifically ecoliteracy in urban communities. The study also highlights a need for further research on the topic.

Recommendations

The findings of this study raise new questions and highlight the need for further research on environment education. The findings of this study suggest a need for research on ways to inspire teacher interest and motivate teachers to incorporate environmental education into their classroom. Additionally, this paper highlights the need for further research on how environmental education in low-income urban communities is being implemented on a larger scale. Lastly, the findings of this study also suggest a need for academic discussion on how environmental education and ecoliteracy are represented in the curriculum and other Ministry documents. Moreover is information in these documents reaching all practicing teachers?

Conclusion

In conclusion, this study confirms that students coming from low-income urban communities have unique needs that teachers implementing environmental education need to be considerate of and responsive too. Environmental education programs need to take into account the SES, cultural diversity and environmental and geographic aspects of the community.
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Additionally, although teachers face unique circumstances when working in low SES urban areas, effective environmental education programs are possible as demonstrated by the participants of this study.

I think that all students have that interest or can develop that interest for the environment. It is just a matter of providing them with different opportunities to engage with and experience the environment both natural and built. If you have no experience with mature or with the environment it is harder to develop that care for it.

Ultimately, this study speaks to the fact that not only is there a serious need for environmental education. It is essential all students become ecoliterate citizens of the world if we hope to challenge the unfriendly environmental perspectives and practices that are damaging our planet.
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Appendix A: Interview Questions

Brief introduction

Before we begin I just wanted to take this time to thank-you for participating in this research study. The topic I am researching is how environmental education programs are being implemented in low-income urban schools. I will now ask you a total of eighteen questions. I will ask you one question at a time giving you as much time as you need to respond. Feel free to take a few moments to gather your thoughts before you respond. I am genuinely very interested in your insights regarding environmental education so please to not feel nervous, this is an informal interview. Do you have any questions or concerns before we begin? Lastly, for the purpose of this study environmental education and ecoliteracy can be considered interchangeable.

Background Information

1) How long have you been a teacher?
2) What grades do you work with?
3a) Do you have any past experiences that have assisted you in your role as an environmental educator
b) Have you taken any professional development courses focused on environmental education? (If yes please provide a brief description, if no, are you interested?)

Beliefs and Values

4) What made you want to include environmental education in your classroom?
5a) In terms of environmental education what do you feel are the needs of students coming from low-income urban communities?
b) How are these needs similar or different from students coming from different socioeconomic communities?

Influential Factors

6) Do you think socioeconomic factors influence a student’s background knowledge of the environment? Why or why not?
7) Is the socioeconomic status of your students something you take into consideration when developing your environmental education program?

Supports

8) What kinds of support systems are available to you as a teacher trying to incorporate environmental education into your classroom?
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19) Do you feel there is support from parents for environmental education? Please explain.
10Do you find the curriculum acts as a support or a barrier to your environmental education program? Please clarify.
11a) Are there any expenses associated with your environmental education program? If so, for what?
b) Where does the funding come from to support your environmental education program?

Teaching Practices
12) What is the biggest challenge you face when implementing environmental education programs for students from low-income urban schools?
13) What is your biggest success when teaching students from low-income urban communities?
14) What are some strategies you have used to effectively teach environmental education?
15) What are some strategies you have tried but didn’t work?
16) What are some suggestions/advice you would give a teacher working in a low-income urban school trying to implement environmental education in their classroom?

Conclusion
17) Would you like to add or revise any of your previous answer?
18) Do you have any questions you would like to ask me?

Appendix B: Case Study Questions

Brief introduction

Before we begin I just wanted to take this time to thank-you for participating in this research study. The topic I am researching is how environmental education programs are being implemented in low-income urban schools. I will now ask you a total of fifteen questions. I will ask you one question at a time giving you as much time as you need to respond. Feel free to take a few moments to gather your thoughts before you respond. I am genuinely very interested in your insights regarding environmental education so please to not feel nervous, this is an informal interview. Do you have any questions or concerns before we begin? Lastly, for the purpose of this study environmental education and ecoliteracy can be considered interchangeable.

Background Information
1a) How long have you been an educator in an outdoor education Centre?
b) What grades do you work with?
c) Do you have any past experiences that have assisted you in your role as an environmental educator?
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Personal Reflection
2a) In terms of environmental education, what do you feel the needs of students are coming from low-income urban communities?
b) How are these needs similar or different from students coming from different socioeconomic communities?
3) Do you think socioeconomic factors influence a student’s background knowledge of the environment? Why or why not?

Influential Factors
4) Is the socioeconomic status of students something you take into consideration when programming? Please clarify.
5) Is the geographic location of school communities something you take into account when programming? Please clarify.
6) In terms of funding, does the Centre offer any subsidies to teachers/students coming from low-income urban communities? Please clarify.

Supports
7) What kind of support systems are available to teachers working with the outdoor education Centre?
8) Do you find the curriculum acts as a support or a barrier to your environmental education program? Please clarify.
9) What are your observations of pre-preparation from classroom teachers? Is there co-planning with classroom teachers?
10) In general how is the experience situated within the learning process? (Is it used to support inquiry, or to wrap up a unit or a day of fun)?

Teaching Practices
11) What is the biggest challenge you face when implementing environmental education programs for students from low-income urban schools?
12) What is your biggest success when teaching students from low-income urban communities?
13) What are some suggestions/advice you would give a teacher working in a low-income urban school trying to implement environmental education in their classroom?

Conclusion
14) Would you like to add or revise any of your previous answers?
15) Do you have any questions you would like to ask me?
Appendix C: Letter of Consent for Interview

Date: ______________________

Dear ______________________,

I am a graduate student at OISE, University of Toronto, and am currently enrolled as a Master of Teaching candidate. I am studying how environmental education programs are being implemented in low-income urban school for the purposes of investigating an educational topic as a major assignment for our program. I think that your knowledge and experience will provide insights into this topic.

I am writing a report on this study as a requirement of the Master of Teaching Program. My course instructor who is providing support for the process this year is Susan Schwartz. My research supervisor is Garfield Gini-Newman. The purpose of this requirement is to allow us to become familiar with a variety of ways to do research. My data collection consists of a 45-minute interview that will be tape-recorded. I would be grateful if you would allow me to interview you at a place and time convenient to you. I can conduct the interview at your office or workplace, in a public place, or anywhere else that you might prefer.

The contents of this interview will be used for my assignment, which will include a final paper, as well as informal presentations to my classmates and/or potentially at a conference or publication. I will not use your name or anything else that might identify you in my written work, oral presentations, or publications. This information remains confidential. The only people who will have access to my assignment work will be my research supervisor and my course instructor. You are free to change your mind at any time, and to withdraw even after you have consented to participate. You may decline to answer any specific questions. I will destroy the tape recording after the paper has been presented and/or published which may take up to five years after the data has been collected. There are no known risks or benefits to you for assisting in the project, and I will share with you a copy of my notes to ensure accuracy.

Please sign the attached form, if you agree to be interviewed. The second copy is for your records. Thank you very much for your help.

Yours sincerely,

Amanda Silver
Phone number: (647) 462-4934 email: a.silver.murray@mail.utoronto.ca

Instructor’s Name: Susan Schwartz
Email: susan.schwartz@utoronto.ca
Research Supervisor’s Name: Garfield Gini-Newman
Email: ggininewman.gini.newman@utoronto.ca
Consent Form

I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw at any time without penalty.

I have read the letter provided to me by Amanda Silver and agree to participate in an interview for the purposes described.

Signature: __________________________________________

Name (printed): _______________________________________

Date: __________________________